

<110> Human Genome Sciences, Inc.

<120> Lyme Disease Vaccines

<130> PB481US

<140> Unassigned

<141> 2001-04-24

<150> PCT/US98/12718

<151> 1998-06-18

<150> 60/057,483

<151> 1997-09-03

<150> 60/053,344

<151> 1997-07-22

<150> 60/053,377

<151> 1997-07-22

<150> 60/050,359

<151> 1997-06-20

<160> 148

<170> PatentIn Ver. 2.0

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<212> PRT

<213> Homo sapiens

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20 25 30

Asp Pro Val Phe Ser Asp Leu Lys Ile Lys Val Leu Lys Tyr Asn Lys  
35 40 45

Lys Gln His Ile Pro Leu Phe Phe Tyr Ser Tyr Lys Val Lys Lys Gly  
50 55 60

Asp Thr Phe Phe Lys Ile Ala Asn Lys Ile Asn Gly Trp Gln Ser Gly  
65 70 75 80

Ile Ala Thr Ile Asn Leu Leu Asp Ser Pro Ala Val Ser Val Gly Gln  
85 90 95

Glu Ile Leu Ile Pro Ser Lys Lys Gly Val Phe Val Phe Asp Ser Lys  
100 105 110

Asp Tyr Arg Phe Asn Asn Leu Leu Leu Ala Thr Arg Asp Leu Ala Lys  
115 120 125

Ala Glu Lys Val Lys Ile Lys Arg Asn Asp Arg Val Tyr Glu Phe Tyr  
130 135 140

Phe Phe Asp Phe Val Lys Asn Pro Asp Phe Gly Leu Phe Ser Gly Thr  
145 150 155 160

Glu Leu Leu Phe Phe Leu Asn Ala Asn Phe Ile Phe Pro Leu Lys Lys  
165 170 175

Phe Ile Val Ser Ser Asp Phe Gly Phe Arg Asn Asp Pro Phe Thr Gly  
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Asn Lys Ser Phe His Thr Gly Ile Asp Leu Ala Ala Pro Met Asn Ala  
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Glu Val Tyr Leu Leu Leu Leu Glu  
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<212> PRT

<213> Homo sapiens

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Leu Phe Phe Tyr Ser Tyr Lys Val Lys Lys Gly Asp Thr Phe Phe Lys  
35 40 45

Ile Ala Asn Lys Ile Asn Gly Trp Gln Ser Gly Ile Ala Thr Ile Asn  
50 55 60

Leu Leu Asp Ser Pro Ala Val Ser Val Gly Gln Glu Ile Leu Ile Pro  
65 70 75 80

Ser Lys Lys Gly Val Phe Val Phe Asp Ser Lys Asp Tyr Arg Phe Asn  
85 90 95

Asn Leu Leu Leu Ala Thr Arg Asp Leu Ala Lys Ala Glu Lys Val Lys  
100 105 110

Ile Lys Arg Asn Asp Arg Val Tyr Glu Phe Tyr Phe Phe Asp Phe Val  
115 120 125

Lys Asn Pro Asp Phe Gly Leu Phe Ser Gly Thr Glu Leu Leu Phe Phe  
130 135 140

Leu Asn Ala Asn Phe Ile Phe Pro Leu Lys Lys Phe Ile Val Ser Ser  
145 150 155 160

Asp Phe Gly Phe Arg Asn Asp Pro Phe Thr Gly Asn Lys Ser Phe His  
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Leu Leu Glu  
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 gttaaaaaag gggatacttt ttttaaaatt gccaatataa taaatggatg gcagtcgggc 240  
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Lys Val Leu Glu Ser Pro Ser Lys Tyr Ile Asn Ile Asp Val Ile Lys  
 35 40 45

Ala Thr Asn Glu Tyr Ile Tyr Ile Gln Ile Thr Asn Asn Ser Leu Asp  
 50 55 60

Val Val Lys Ile Asn Trp Gln Asn Thr Ser Leu Asn Asn Asp Lys Ile  
65 70 75 80

Val Leu Lys Lys Glu Asp Leu Thr Ile Asn Asn Glu Thr Gly Tyr Lys  
85 90 95

Asn Lys Tyr Arg Glu Phe Phe Ile Gly Pro Lys Thr Ser Phe Lys Phe  
100 105 110

Lys Val Tyr Pro Leu Lys Ile His Ser Lys Asn Lys Asn Ser Asn Asn  
115 120 125

Leu Ser Ser Thr Ile Lys Tyr Pro Ser Ile Phe Lys Leu Asn Ile Thr  
130 135 140

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Thr Thr Lys Ile Asn Ile Thr Asn Lys  
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35 40 45

Val Lys Ile Asn Trp Gln Asn Thr Ser Leu Asn Asn Asp Lys Ile Val  
50 55 60

Leu Lys Lys Glu Asp Leu Thr Ile Asn Asn Glu Thr Gly Tyr Lys Asn  
65 70 75 80

Lys Tyr Arg Glu Phe Phe Ile Gly Pro Lys Thr Ser Phe Lys Phe Lys  
85 90 95

Val Tyr Pro Leu Lys Ile His Ser Lys Asn Lys Asn Ser Asn Asn Leu  
100 105 110

Ser Ser Thr Ile Lys Tyr Pro Ser Ile Phe Lys Leu Asn Ile Thr Lys  
115 120 125

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 gaatctccct ctaaatacat caatatagat gtaattaaag ctacaaatga atatatttat 240  
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 aaaaataaat acagagagtt ttttattggt cctaaaactt catttaaatt taaagtatat 420  
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 gataagatcg tcttaaaaaa agaagatctt acaataaaca atgaaacagg gtataaaaaat 240  
 aaatacagag agttttttat tggtcctaaa acctcattta aatttaaagt ataccacta 300  
 aaaattcatt ctaaaaacaa aaatagcaat aacttaagct caactattaa atatccgtct 360  
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 Asp Asp Glu Asn Ser Lys Lys Arg Asp Lys Leu Thr Leu Ser Gln Lys  
 35 40 45  
 Ser Tyr Leu Arg Glu Leu Glu Leu Ser Thr Asp Glu Asp Leu Lys Lys  
 50 55 60  
 Trp Ala Leu Lys Glu Gly Leu Lys Glu Thr Asp Val Ser Lys Ile Arg  
 65 70 75 80  
 Glu Leu Leu Leu Lys Lys Phe Gly Ile Asp Pro Glu Leu Phe Ile Lys  
 85 90 95  
 Gly Lys Gly Leu Ala Gly Ser Gly Arg Tyr Lys Ile Ile Ile Glu Thr  
 100 105 110

Ala Asp Asn Leu Glu Asn Phe Thr Tyr Gly Leu Thr Lys Asp Glu Ser  
 115 120 125  
 Ile Ile Phe Glu Gly Arg Val Asn Ile Leu Val Glu Asp Ile Lys Glu  
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 145 150 155 160  
 Ser Lys Lys Leu Tyr Ala Ile Gly Asn Val Glu Tyr Ile Leu Asp Met  
 165 170 175  
 Asp Thr Asn Glu Lys Leu Tyr Phe Tyr Gly Asn Glu Phe Leu Val Asp  
 180 185 190  
 Phe Asp Ser Gln Asn Phe Leu Leu Lys Asn Gly Ile Leu Gln Lys Lys  
 195 200 205  
 Met Gln Lys Asn Gln Ile Asp His Ile Leu Ser Phe Gly Gly Lys Val  
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 Leu Lys Lys Ile Asp Asn Asp Val Thr Ile Leu Glu Gln Ala Phe Ala  
 225 230 235 240  
 Thr Thr Ser Lys Ile Pro Glu Pro Tyr Tyr Ser Ile Lys Ala Ser Lys  
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 Ile Trp Ala Leu Pro Ser Gly Asp Phe Gly Phe Leu Asn Ala Ile Phe  
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 275 280 285  
 Gly Asp Ser Leu Phe Phe Asn Pro Ser Leu Gly Leu Asn Pro Arg Lys  
 290 295 300  
 Gly Phe Ser Val Phe Asn Thr Val Tyr Leu Phe Gly Asn Lys Ser Ser  
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 355 360 365  
 Phe Asp Ile Tyr Ala Asn Leu Gly Phe Tyr Ser Gly Ile Asp Phe Asn  
 370 375 380  
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 Leu Gly Phe Thr Arg Asn Val Tyr Ser Tyr Asp Gly Gly Tyr Tyr Pro  
 405 410 415

Phe Asp Asn Arg Thr Leu Lys Gln Ser Leu Phe Ser Phe Ser Asn Leu  
 420 425 430  
 Asn Lys Gly Asp Val Phe Gly Phe Glu Val Pro Phe Arg Tyr Leu Phe  
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 Lys Phe Lys Thr Glu Phe Leu Leu Ser Asp Ala Leu Phe Ser Val Val  
 450 455 460  
 Leu Glu His Tyr Ser Asp Pro Tyr Val Asn Ile Asp Phe Arg Asp Arg  
 465 470 475 480  
 Ile Glu Ser Ala Thr Phe Phe Ser Leu Leu Asn Leu Asp Lys Asp Ser  
 485 490 495  
 Val Lys Glu Gln Thr Ser Ile Ser Thr Phe Asp Trp Asn Leu Ser Ser  
 500 505 510  
 Phe Tyr Lys Arg Thr Phe Asn Asp Gly Ser Ile Leu Asp Tyr Lys Leu  
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 Asn Asn Leu Gly Leu Ser Phe Lys Leu Ser Gly Tyr Glu Asn Leu Tyr  
 530 535 540  
 Val Lys Ser Pro Leu Glu Lys Pro Lys Asp Val Asn Asp Pro Thr Arg  
 545 550 555 560  
 Lys Trp Phe Tyr Leu Glu Arg Ile Tyr Ala Pro Tyr Ile Asp Leu Asn  
 565 570 575  
 Phe Gln Lys Asp Leu Tyr Asn Asn Gln Trp Thr Phe Pro Ala Asp Thr  
 580 585 590  
 Lys Glu Met Ile Met Arg Pro Glu Ile Lys Asn Leu Glu Asp Lys Asp  
 595 600 605  
 Asn Asp Lys Lys Ser Val Lys Glu Lys Asn Thr Lys Lys Thr Thr Glu  
 610 615 620  
 Leu Thr Lys Asp Leu Tyr Ile Pro Pro Glu Pro Ile Thr Leu Lys Asn  
 625 630 635 640  
 Ile Asp Gln Ser Asp Ser Phe Phe Ile Arg Phe Gly Ile Asn Pro Tyr  
 645 650 655  
 Leu Arg Asn Asn Val Phe Phe Asp Asn Tyr Gly Ile Thr Ser Pro Lys  
 660 665 670  
 Asp Phe Asn Tyr Glu Ile Lys Asn Tyr Leu Phe Asp Ile Lys Asn Lys  
 675 680 685  
 Thr Asp Ile Lys Ile His Ala Asp Phe Tyr Asn Arg Leu Ile Thr Phe  
 690 695 700  
 Glu Asn Leu Leu Tyr Leu Asn Thr Ile Glu Tyr Ser Pro Leu Asn Lys  
 705 710 715 720  
 Asp Phe Lys Val Glu Asp Lys Asp Lys Lys Ser Glu His Ser Ile Ile

	725		730		735
Asn Gln Ile	Asn Leu Asn Leu Leu	Pro Phe Ile Arg Tyr	Pro Leu Phe		
	740	745	750		
Ser Arg Ser Thr	Leu Lys Phe Glu Asn Lys Ala Thr	Leu Tyr Ser Phe			
	755	760	765		
Asn Lys Lys Tyr Asp	Ser Asp Val Lys Ser Leu Val Asn Lys Asn Ser				
	770	775	780		
Ser Ile Phe Leu Ser	Asp Pro Glu Thr Phe Tyr Gln Ser Leu Thr Ala				
	785	790	795		800
Ser Leu Ile Tyr Asp	Tyr Asp Tyr Phe Thr Thr Glu Leu Ser Gly Glu				
	805	810			815
Leu Lys Asn Ser Phe	Glu Asp Ile Lys Ala Ser Ser Glu Leu Lys Leu				
	820	825			830
Ser Leu Asp Phe Pro	Tyr Leu Leu Gln Glu Ala Gly Ile Gly Ile Lys				
	835	840			845
Tyr Tyr Lys Lys Phe	Lys Glu Asp Ala Met Lys Asn Ser Gly Ile Ser				
	850	855			860
Ala Val Gln Ser Pro	Leu Glu Pro Gln Lys Pro Ser Ser Pro Tyr Lys				
	865	870			875
Asn Leu Glu Met Ser	Pro Ala Leu Tyr Tyr Lys Ile Glu Pro Arg Tyr				
	885	890			895
Leu Asp Tyr Phe Lys	Phe Ser Phe Leu Val Ala Tyr Asp Pro Leu Ile				
	900	905			910
Asn Arg Val Ser Glu	Leu Ser Phe Lys Leu Asn Val Phe Asp Phe Gln				
	915	920			925
Phe Leu Phe Ala Met	Lys Asp Asp Phe Glu Tyr Asn Tyr Asp Pro Leu				
	930	935			940
Lys Gly Asp Phe Ser	Lys Ile Gly Thr Thr Thr Lys Leu Val Pro Tyr				
	945	950			955
Ser Leu Asp Ser Ser	Tyr Lys Lys Glu Leu Tyr Val Leu Thr Phe Phe				
	965	970			975
Asp Asn Lys Leu Ser	Phe Thr Leu Gly Val Asp Val Gly Trp Lys Ile				
	980	985			990
Asn Leu Gln Lys Phe	Thr Asp Asn Glu Leu Arg Ser Ala Leu Thr Leu				
	995	1000			1005
Lys Phe Lys Tyr Thr	Glu Phe Leu Glu Ile Tyr Phe Ser Thr Leu Ser				
	1010	1015			1020
Ile Asn Thr Lys Thr	Phe Lys Tyr Phe Lys Gly Tyr Met Asp Gln Ile				
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					1040

Gly Leu Glu Pro Val Asn Phe Phe Val Asp Leu Ser Lys Ser Phe Asn  
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Phe Phe Asn Ser Gln Asp Arg Lys Asp Ser Leu Phe Lys Ile Lys Lys  
 1060 1065 1070

Phe Ser Ser Gly Phe Lys Phe Asn Phe Tyr Asp Trp Lys Phe Val Gly  
 1075 1080 1085

Glu Tyr Asn Leu Glu Pro Asp Leu Leu Arg Gly Ser Asp Gly Ile Tyr  
 1090 1095 1100

Ser Pro Ile Trp Arg Asn Asn Phe Thr Ile Tyr Ile Ser Trp Asn Phe  
 1105 1110 1115 1120

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<212> PRT

<213> Homo sapiens

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Asp Glu Asp Leu Lys Lys Trp Ala Leu Lys Glu Gly Leu Lys Glu Thr  
 35 40 45

Asp Val Ser Lys Ile Arg Glu Leu Leu Lys Lys Phe Gly Ile Asp  
 50 55 60

Pro Glu Leu Phe Ile Lys Gly Lys Gly Leu Ala Gly Ser Gly Arg Tyr  
 65 70 75 80

Lys Ile Ile Ile Glu Thr Ala Asp Asn Leu Glu Asn Phe Thr Tyr Gly  
 85 90 95

Leu Thr Lys Asp Glu Ser Ile Ile Phe Glu Gly Arg Val Asn Ile Leu  
 100 105 110

Val Glu Asp Ile Lys Glu Asn Lys Lys His Asn Ile Lys Gly Asp Arg  
 115 120 125

Ile Val Leu Asn Lys Asn Ser Lys Lys Leu Tyr Ala Ile Gly Asn Val  
 130 135 140

Glu Tyr Ile Leu Asp Met Asp Thr Asn Glu Lys Leu Tyr Phe Tyr Gly  
 145 150 155 160

Asn Glu Phe Leu Val Asp Phe Asp Ser Gln Asn Phe Leu Leu Lys Asn  
 165 170 175  
 Gly Ile Leu Gln Lys Lys Met Gln Lys Asn Gln Ile Asp His Ile Leu  
 180 185 190  
 Ser Phe Gly Gly Lys Val Leu Lys Lys Ile Asp Asn Asp Val Thr Ile  
 195 200 205  
 Leu Glu Gln Ala Phe Ala Thr Thr Ser Lys Ile Pro Glu Pro Tyr Tyr  
 210 215 220  
 Ser Ile Lys Ala Ser Lys Ile Trp Ala Leu Pro Ser Gly Asp Phe Gly  
 225 230 235 240  
 Phe Leu Asn Ala Ile Phe Tyr Met Gly Arg Val Pro Val Phe Tyr Ile  
 245 250 255  
 Pro Phe Phe Phe Arg Pro Gly Asp Ser Leu Phe Phe Asn Pro Ser Leu  
 260 265 270  
 Gly Leu Asn Pro Arg Lys Gly Phe Ser Val Phe Asn Thr Val Tyr Leu  
 275 280 285  
 Phe Gly Asn Lys Ser Ser Ser Glu Asp Ser Ser Phe Leu Asp Phe Asp  
 290 295 300  
 Phe Asn Ser Val Tyr Asn Ser Gly Lys Lys Pro Tyr Ile Arg Asn Gly  
 305 310 315 320  
 Tyr Leu Thr Tyr Phe Phe Ala Glu Asn Leu Ala Pro Ser Val Asn Lys  
 325 330 335  
 Asp Tyr Val Lys Leu Ile Phe Asp Ile Tyr Ala Asn Leu Gly Phe Tyr  
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 Ser Gly Ile Asp Phe Asn Leu Gly Asn Thr Leu Gly His Phe Lys Thr  
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 Leu Glu Gly Asn Phe Gly Leu Gly Phe Thr Arg Asn Val Tyr Ser Tyr  
 370 375 380  
 Asp Gly Gly Tyr Tyr Pro Phe Asp Asn Arg Thr Leu Lys Gln Ser Leu  
 385 390 395 400  
 Phe Ser Phe Ser Asn Leu Asn Lys Gly Asp Val Phe Gly Phe Glu Val  
 405 410 415  
 Pro Phe Arg Tyr Leu Phe Lys Phe Lys Thr Glu Phe Leu Leu Ser Asp  
 420 425 430  
 Ala Leu Phe Ser Val Val Leu Glu His Tyr Ser Asp Pro Tyr Val Asn  
 435 440 445  
 Ile Asp Phe Arg Asp Arg Ile Glu Ser Ala Thr Phe Phe Ser Leu Leu  
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 Asn Leu Asp Lys Asp Ser Val Lys Glu Gln Thr Ser Ile Ser Thr Phe

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Asp Trp Asn Leu Ser Ser Phe Tyr Lys Arg Thr Phe Asn Asp Gly Ser						
		485		490		495
Ile Leu Asp Tyr Lys Leu Asn Asn Leu Gly Leu Ser Phe Lys Leu Ser						
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Gly Tyr Glu Asn Leu Tyr Val Lys Ser Pro Leu Glu Lys Pro Lys Asp						
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Val Asn Asp Pro Thr Arg Lys Trp Phe Tyr Leu Glu Arg Ile Tyr Ala						
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Pro Tyr Ile Asp Leu Asn Phe Gln Lys Asp Leu Tyr Asn Asn Gln Trp						
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Thr Phe Pro Ala Asp Thr Lys Glu Met Ile Met Arg Pro Glu Ile Lys						
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Asn Leu Glu Asp Lys Asp Asn Asp Lys Lys Ser Val Lys Glu Lys Asn						
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Thr Lys Lys Thr Thr Glu Leu Thr Lys Asp Leu Tyr Ile Pro Pro Glu						
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Pro Ile Thr Leu Lys Asn Ile Asp Gln Ser Asp Ser Phe Phe Ile Arg						
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Phe Gly Ile Asn Pro Tyr Leu Arg Asn Asn Val Phe Phe Asp Asn Tyr						
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Gly Ile Thr Ser Pro Lys Asp Phe Asn Tyr Glu Ile Lys Asn Tyr Leu						
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Phe Asp Ile Lys Asn Lys Thr Asp Ile Lys Ile His Ala Asp Phe Tyr						
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Asn Arg Leu Ile Thr Phe Glu Asn Leu Leu Tyr Leu Asn Thr Ile Glu						
		675		680		685
Tyr Ser Pro Leu Asn Lys Asp Phe Lys Val Glu Asp Lys Asp Lys Lys						
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Ser Glu His Ser Ile Ile Asn Gln Ile Asn Leu Asn Leu Leu Pro Phe						
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Ile Arg Tyr Pro Leu Phe Ser Arg Ser Thr Leu Lys Phe Glu Asn Lys						
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Ala Thr Leu Tyr Ser Phe Asn Lys Lys Tyr Asp Ser Asp Val Lys Ser						
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Leu Val Asn Lys Asn Ser Ser Ile Phe Leu Ser Asp Pro Glu Thr Phe						
		755		760		765
Tyr Gln Ser Leu Thr Ala Ser Leu Ile Tyr Asp Tyr Asp Tyr Phe Thr						
		770		775		780

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 Ser Ser Glu Leu Lys Leu Ser Leu Asp Phe Pro Tyr Leu Leu Gln Glu  
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 Ala Gly Ile Gly Ile Lys Tyr Tyr Lys Lys Phe Lys Glu Asp Ala Met  
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 Lys Asn Ser Gly Ile Ser Ala Val Gln Ser Pro Leu Glu Pro Gln Lys  
 835 840 845  
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 Asn Val Phe Asp Phe Gln Phe Leu Phe Ala Met Lys Asp Asp Phe Glu  
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 Thr Lys Leu Val Pro Tyr Ser Leu Asp Ser Ser Tyr Lys Lys Glu Leu  
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 Tyr Val Leu Thr Phe Phe Asp Asn Lys Leu Ser Phe Thr Leu Gly Val  
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 Arg Ser Ala Leu Thr Leu Lys Phe Lys Tyr Thr Glu Phe Leu Glu Ile  
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 Tyr Phe Ser Thr Leu Ser Ile Asn Thr Lys Thr Phe Lys Tyr Phe Lys  
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Tyr Ile Ser Trp Asn Phe Phe Ala Pro Ile Lys Ala Ser Phe Glu Asn  
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&lt;210&gt; 12

&lt;211&gt; 3363

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 12

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&lt;210&gt; 13

&lt;211&gt; 195

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 13

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Asn Tyr Ala Phe Ala Lys Asp Thr Ile Lys Asp Leu Phe Phe Ile Gln
          20             25             30

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Asp Ile Leu Ile Lys Lys Glu Lys Tyr Ser Glu Val Leu Asn Asn Ala
      35             40             45

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Ser Leu Glu Gly Ile Ile Glu Ile Glu His Asn Gly Pro Tyr Ile Lys
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Asp His Asp Ser Glu Val Lys Leu Ile Leu Lys Glu Asn Gly Tyr Arg
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Arg Asn Phe Asn Phe Phe Asn Leu Leu Asn Thr Ser Asn Ile Ile Lys
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Ser Leu Ser Leu Phe Asp Ser Arg Pro Lys Asn Ile Lys Glu Asn Glu
      100             105             110

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Ile Ile Leu Leu Glu Thr Lys Met Ile Lys Glu Asn Pro Tyr Lys Arg
      115             120             125

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Tyr Lys Asp Asp Asp Asp Phe Glu Leu Lys Leu Ser Val Thr Arg Lys
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Asn Asn Gln Ile Tyr Leu Ile Leu Asp Phe Asn Phe Leu Phe Asp Gln
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Arg Lys Thr Phe Pro Ser Ile Tyr Ile Lys Glu Glu Asp Val Ser Thr  
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Gln Ala Ser  
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Ile Glu Ile Glu His Asn Gly Pro Tyr Ile Lys Asp His Asp Ser Glu  
35 40 45

Val Lys Leu Ile Leu Lys Glu Asn Gly Tyr Arg Arg Asn Phe Asn Phe  
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Phe Asn Leu Leu Asn Thr Ser Asn Ile Ile Lys Ser Leu Ser Leu Phe  
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Asp Ser Arg Pro Lys Asn Ile Lys Glu Asn Glu Ile Ile Leu Leu Glu  
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Thr Lys Met Ile Lys Glu Asn Pro Tyr Lys Arg Tyr Lys Asp Asp Asp  
100 105 110

Asp Phe Glu Leu Lys Leu Ser Val Thr Arg Lys Asn Asn Gln Ile Tyr  
115 120 125

Leu Ile Leu Asp Phe Asn Phe Leu Phe Asp Gln Arg Lys Thr Phe Pro  
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Ser Ile Tyr Ile Lys Glu Glu Asp Val Ser Thr Ile Ile Asn Ser Phe  
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<212> DNA  
<213> Homo sapiens

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<210> 16  
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 <213> Homo sapiens

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      20           25           30

Phe Thr Lys Arg Val Phe Ile Ala Leu Ala Ile Gly Ile Val Phe Gly
      35           40           45

Met Thr Ile Gln Tyr Phe Tyr Gly Thr Asn Ser Glu Ile Thr Asn Glu
      50           55           60

Thr Ile Asn Trp Ile Ser Ile Leu Gly Asp Gly Tyr Val Arg Leu Leu
      65           70           75           80

Lys Met Ile Ile Ile Pro Leu Ile Ile Thr Ser Ile Ile Ser Ala Ile
      85           90           95

Ile Lys Leu Thr Asn Ser Lys Asp Val Gly Lys Met Ser Leu Leu Val
      100          105          110

Ile Leu Thr Leu Val Phe Thr Ala Gly Ile Ala Ala Ile Ile Gly Ile
      115          120          125

Phe Thr Ala Leu Ala Leu Gly Leu Thr Ala Glu Gly Leu Gln Ala Gly
      130          135          140

Thr Ile Glu Ile Leu Gln Ser Glu Lys Leu Gln Lys Gly Leu Glu Ile
      145          150          155          160

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 Ile Lys Lys Pro Glu Ser Ile Glu Phe Phe Lys Lys Ile Ile Leu Thr  
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 Pro Tyr Ala Ile Leu Ala Leu Met Thr Lys Ile Thr Ala Thr Ser Glu  
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 385 390 395 400  
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 Val Ile Ser Val Glu Pro Ile Ile Asp Met Gly Arg Thr Ala Val Asn  
 420 425 430  
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<210> 18  
 <211> 438  
 <212> PRT  
 <213> Homo sapiens

<400> 18

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Thr	Ser	Ile	Ile	Ser	Ala	Ile	Ile	Lys	Leu	Thr	Asn	Ser	Lys	Asp	Val
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Ile	Ala	Ala	Ile	Ile	Gly	Ile	Phe	Thr	Ala	Leu	Ala	Leu	Gly	Leu	Thr
			100					105					110		
Ala	Glu	Gly	Leu	Gln	Ala	Gly	Thr	Ile	Glu	Ile	Leu	Gln	Ser	Glu	Lys
		115					120					125			
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 Ile Ser Ala Lys Gln Leu Lys Gln Phe Asn His Asn Ile Tyr Asn Gln  
 420                      425                      430  
 Lys Glu Leu Val Asn Lys  
 435

&lt;210&gt; 19

&lt;211&gt; 1404

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 19

taagaggtaa taatggataa aataagtata ttatatacat taatcaatat tataataatg 60  
 cttattctaa taagcatagt ttatctttgt aaaagaaaaa atgtttcttt taaaaaaga 120  
 gtgtttatag cgttagcaat cggaatagta tttggaatga ccattcaata tttttatgga 180  
 acaaattcag aaataacaaa cgaaactata aattggataa gtattttggg cgatggatac 240  
 gtaaggctcc ttaaaatgat tataatcccc ttaataataa catcaataat ctctgcaata 300  
 ataaaaactaa ccaatagtaa agatgttggg aaaatgagcc tacttgtaat attaacacta 360  
 gtattttacag caggtattgc tgccataatt ggcattttca ctgctttagc attgggatta 420  
 acagccgaag gactacaagc gggaaccatc gaaattttac aaagtgaata attgcaaaaa 480  
 ggccttgaaa tattaaatca aacaacaatc acaaaaaaaa tcacagatct tattccacaa 540  
 aatatatttg aagattttgc agggcttaga aaaaactcaa ccatcggggt cgtgatattt 600  
 tcagctatca taggaatagc cgcccttaaa acatctatca aaaagccaga atcaatagaa 660  
 ttttttaaaa aaataatatt aacactccaa gacataatat taggtgtagt aactttgatt 720  
 ttaaaaactaa cgccttatgc tatattagct ttaatgacaa aaattacagc aaccagcgaa 780  
 atcaaaaagca taataaagct tggagaattt gtaattgctt cctacattgc cataggtctt 840  
 acatttctta tgcataatgac attaatgca ataaataaat taaaccaat tacttttata 900  
 aaaaaaatat tcccagcact atcatttgca ttcatatcta ggtcgagtgc tgcaaccata 960  
 cccattaata tagaaattca aactaaaaat ctgggagtaa gcgaaggaat agcaaattta 1020  
 tcaagctcct ttggaacatc aattgggcaa aatgggtgtg cagcactaca ccccgctatg 1080  
 cttgcaataa tgatagcacc aactcaggga ataaaccca cagatatttc atttatactc 1140  
 acacttattg gattaataat aataaacttca tttggagctg ctggcgctgg tggaggcgca 1200



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acaacagcct cactaatggt gctctcagca atgaactttc cagtgggatt ggtaggactt 1260
gtaatatctg ttgagcctat aattgacatg ggaagaacag ctgttaatgt aggcgggctca 1320
atgcttgacg gcgttatatc tgctaaacag ctcaaacaat tcaaccataa tatatacaac 1380
caaaaagagc ttgtaaaca ataa 1404

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<210> 20
<211> 1317
<212> DNA
<213> Homo sapiens

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<400> 20
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ataaattgga taagtatttt gggcgatgga tacgtaaggc tccttaaaat gattataatc 180
cccttaataa taacatcaat aatctctgca ataataaaac taaccaatag taaagatgtt 240
gggaaaatga gcctacttgt aatattaaca ctagtattta cagcagggtat tgctgccata 300
attggcattt tcactgcttt agcattggga ttaacagccg aaggactaca agcgggaacc 360
atcgaaattt tacaaagtga aaaattgcaa aaaggccttg aaatattaaa tcaaacaaca 420
atcacaaaaa aaatcacaga tcttattcca caaaatataat ttgaagattt tgcagggtt 480
agaaaaaact caaccatcgg ggtcgtgata ttttcagcta tcataggaat agccgccctt 540
aaaacatcta tcaaaaagcc agaatacaata gaatttttta aaaaaataat attaacactc 600
caagacataa tattaggtgt agtaactttg attttaaaac taacgcctta tgctatatta 660
gctttaatga caaaaattac agcaaccagc gaaatcaaaa gcataataaa gcttgagaa 720
tttgtaattg ctccctacat tgccataggt cttacatttc ttatgcatat gacattaatt 780
gcaataaata aattaaaccc aattactttt ataaaaaaa tattcccagc actatcattt 840
gcattcatat ctaggctcag tgctgcaacc ataccatta atatagaaat tcaactaaa 900
aatctgggag taagcgaagg aatagcaaat ttatcaagct cctttggaac atcaattggg 960
caaaatgggt gtgcagcact acaccccgct atgcttgcaa taatgatagc accaactcag 1020
ggaataaaacc ccacagatat ttcatttata ctcacactta ttggattaat aataataact 1080
tcatttgagg ctgctggcgc tgggtggaggc gcaacaacag cctcactaat ggtgctctca 1140
gcaatgaact ttccagtggg attggttagga cttgtaatat ctgttgagcc tataattgac 1200
atgggaagaa cagctgttaa tgtaggcggc tcaatgcttg caggcggtat atctgctaaa 1260
cagctcaaac aattcaacca taatatatac aacaaaaaag agcttgtaaa caataa 1317

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<210> 21
<211> 443
<212> PRT
<213> Homo sapiens

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<400> 21
Met Lys Ile Ile Ile Ile Gly Gly Thr Ser Ala Gly Thr Ser Ala Ala
  1           5           10           15

Ala Lys Ala Asn Arg Leu Asn Lys Lys Leu Asp Ile Thr Ile Tyr Glu
          20           25           30

Lys Thr Asn Ile Val Ser Phe Gly Thr Cys Gly Leu Pro Tyr Phe Val
          35           40           45

Gly Gly Phe Phe Asp Asn Pro Asn Thr Met Ile Ser Arg Thr Gln Glu
          50           55           60

Glu Phe Glu Lys Thr Gly Ile Ser Val Lys Thr Asn His Glu Val Ile
          65           70           75           80

Lys Val Asp Ala Lys Asn Asn Thr Ile Val Ile Lys Asn Gln Lys Thr
          85           90           95

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Gly Thr Ile Phe Asn Asn Thr Tyr Asp Gln Leu Met Ile Ala Thr Gly  
 100 105 110  
 Ala Lys Pro Ile Ile Pro Pro Ile Asn Asn Ile Asn Leu Glu Asn Phe  
 115 120 125  
 His Thr Leu Lys Asn Leu Glu Asp Gly Gln Lys Ile Lys Lys Leu Met  
 130 135 140  
 Asp Arg Glu Glu Ile Lys Asn Ile Val Ile Ile Gly Gly Gly Tyr Ile  
 145 150 155 160  
 Gly Ile Glu Met Val Glu Ala Ala Lys Asn Lys Arg Lys Asn Val Arg  
 165 170 175  
 Leu Ile Gln Leu Asp Lys His Ile Leu Ile Asp Ser Phe Asp Glu Glu  
 180 185 190  
 Ile Val Thr Ile Met Glu Glu Glu Leu Thr Lys Lys Gly Val Asn Leu  
 195 200 205  
 His Thr Asn Glu Phe Val Lys Ser Leu Ile Gly Glu Lys Lys Ala Glu  
 210 215 220  
 Gly Val Val Thr Asn Lys Asn Thr Tyr Gln Ala Asp Ala Val Ile Leu  
 225 230 235 240  
 Ala Thr Gly Ile Lys Pro Asp Thr Glu Phe Leu Glu Asn Gln Leu Lys  
 245 250 255  
 Thr Thr Lys Asn Gly Ala Ile Ile Val Asn Glu Tyr Gly Glu Thr Ser  
 260 265 270  
 Ile Lys Asn Ile Phe Ser Ala Gly Asp Cys Ala Thr Ile Tyr Asn Ile  
 275 280 285  
 Val Ser Lys Lys Asn Glu Tyr Ile Pro Leu Ala Thr Thr Ala Asn Lys  
 290 295 300  
 Leu Gly Arg Ile Val Gly Glu Asn Leu Ala Gly Asn His Thr Ala Phe  
 305 310 315 320  
 Lys Gly Thr Leu Gly Ser Ala Ser Ile Lys Ile Leu Ser Leu Glu Ala  
 325 330 335  
 Ala Arg Thr Gly Leu Thr Glu Lys Asp Ala Lys Lys Leu Gln Ile Lys  
 340 345 350  
 Tyr Lys Thr Ile Phe Val Lys Asp Lys Asn His Thr Asn Tyr Tyr Pro  
 355 360 365  
 Gly Gln Glu Asp Leu Tyr Ile Lys Leu Ile Tyr Glu Glu Asn Thr Lys  
 370 375 380  
 Ile Ile Leu Gly Ala Gln Ala Ile Gly Lys Asn Gly Ala Val Ile Arg  
 385 390 395 400  
 Ile His Ala Leu Ser Ile Ala Ile Tyr Ser Lys Leu Thr Thr Lys Glu

405                      410                      415  
 Leu Gly Met Met Asp Phe Ser Tyr Ser Pro Pro Phe Ser Arg Thr Trp  
                     420                      425                      430  
 Asp Ile Leu Asn Ile Ala Gly Asn Ala Ala Lys  
                     435                      440  
 <210> 22  
 <211> 429  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 22  
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   1                    5                    10                    15  
 Tyr Glu Lys Thr Asn Ile Val Ser Phe Gly Thr Cys Gly Leu Pro Tyr  
                     20                    25                    30  
 Phe Val Gly Gly Phe Phe Asp Asn Pro Asn Thr Met Ile Ser Arg Thr  
                     35                    40                    45  
 Gln Glu Glu Phe Glu Lys Thr Gly Ile Ser Val Lys Thr Asn His Glu  
                     50                    55                    60  
 Val Ile Lys Val Asp Ala Lys Asn Asn Thr Ile Val Ile Lys Asn Gln  
   65                    70                    75                    80  
 Lys Thr Gly Thr Ile Phe Asn Asn Thr Tyr Asp Gln Leu Met Ile Ala  
                     85                    90                    95  
 Thr Gly Ala Lys Pro Ile Ile Pro Pro Ile Asn Asn Ile Asn Leu Glu  
                     100                    105                    110  
 Asn Phe His Thr Leu Lys Asn Leu Glu Asp Gly Gln Lys Ile Lys Lys  
                     115                    120                    125  
 Leu Met Asp Arg Glu Glu Ile Lys Asn Ile Val Ile Ile Gly Gly Gly  
   130                    135                    140  
 Tyr Ile Gly Ile Glu Met Val Glu Ala Ala Lys Asn Lys Arg Lys Asn  
   145                    150                    155                    160  
 Val Arg Leu Ile Gln Leu Asp Lys His Ile Leu Ile Asp Ser Phe Asp  
                     165                    170                    175  
 Glu Glu Ile Val Thr Ile Met Glu Glu Glu Leu Thr Lys Lys Gly Val  
                     180                    185                    190  
 Asn Leu His Thr Asn Glu Phe Val Lys Ser Leu Ile Gly Glu Lys Lys  
                     195                    200                    205  
 Ala Glu Gly Val Val Thr Asn Lys Asn Thr Tyr Gln Ala Asp Ala Val  
   210                    215                    220  
 Ile Leu Ala Thr Gly Ile Lys Pro Asp Thr Glu Phe Leu Glu Asn Gln  
   225                    230                    235                    240

Leu Lys Thr Thr Lys Asn Gly Ala Ile Ile Val Asn Glu Tyr Gly Glu  
 245 250 255  
 Thr Ser Ile Lys Asn Ile Phe Ser Ala Gly Asp Cys Ala Thr Ile Tyr  
 260 265 270  
 Asn Ile Val Ser Lys Lys Asn Glu Tyr Ile Pro Leu Ala Thr Thr Ala  
 275 280 285  
 Asn Lys Leu Gly Arg Ile Val Gly Glu Asn Leu Ala Gly Asn His Thr  
 290 295 300  
 Ala Phe Lys Gly Thr Leu Gly Ser Ala Ser Ile Lys Ile Leu Ser Leu  
 305 310 315 320  
 Glu Ala Ala Arg Thr Gly Leu Thr Glu Lys Asp Ala Lys Lys Leu Gln  
 325 330 335  
 Ile Lys Tyr Lys Thr Ile Phe Val Lys Asp Lys Asn His Thr Asn Tyr  
 340 345 350  
 Tyr Pro Gly Gln Glu Asp Leu Tyr Ile Lys Leu Ile Tyr Glu Glu Asn  
 355 360 365  
 Thr Lys Ile Ile Leu Gly Ala Gln Ala Ile Gly Lys Asn Gly Ala Val  
 370 375 380  
 Ile Arg Ile His Ala Leu Ser Ile Ala Ile Tyr Ser Lys Leu Thr Thr  
 385 390 395 400  
 Lys Glu Leu Gly Met Met Asp Phe Ser Tyr Ser Pro Pro Phe Ser Arg  
 405 410 415  
 Thr Trp Asp Ile Leu Asn Ile Ala Gly Asn Ala Ala Lys  
 420 425

&lt;210&gt; 23

&lt;211&gt; 1332

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 23

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 cgcttaaaca aaaagctaga cactactatc tatgaaaaaa caaatattgt atcttttggg 120  
 acctgtggcc tgccttactt tgtgggggga ttctttgaca accccaatac aatgatctca 180  
 agaacacaag agaattcga aaaaactgga atctctgtta aaactaacca cgaagttatc 240  
 aaagtagatg caaaaaacaa tacaattgta ataaaaaatc aaaaaacagg aaccattttt 300  
 aacaatactt acgatcaact tatgatagca actggtgcaa aacctattat tccaccaatc 360  
 aataatatca atctagaaaa ttttcatact ctgaaaaaatt tagaagacgg tcaaaaaata 420  
 aaaaaattaa tggatagaga agagattaaa aatatagtga taattggtgg tggatacatt 480  
 ggaattgaaa tggtagaagc agcaaaaaat aaaagaaaaa atgtaagatt aattcaacta 540  
 gataagcaca tactcataga ttcttttgac gaagaaatag tcacaataat ggaagaagaa 600  
 ctaacaaaaa aggggggttaa tcttcataca aatgagtttg taaaaagttt aataggagaa 660  
 aaaaaggcag aaggagtagt aacaaaacaa aatacttatc aagctgacgc tggtatactt 720  
 gctaccggaa taaaacctga cactgaattt ttagaaaacc agcttaaac tactaaaaat 780  
 ggagcaataa ttgtaaatga gtatggcgaa actagcataa aaaatatttt ttctgcagga 840  
 gattgtgcaa ctatttataa tatagttaagt aaaaaaatg aatacatacc cttggcaaca 900

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acagccaaca aacttggaag aatagttggt gaaaatttag ctgggaatca tacagcattt 960
aaaggcacat tgggctcagc ttcaattaaa atactatctt tagaagctgc aagaacagga 1020
cttacagaaa aagatgcaaa aaagctccaa ataaaatata aaacgatttt tgtaaaggac 1080
aaaaatcata caaattatta tccaggccaa gaagatcttt atattaaatt aatttatgag 1140
gaaaatacca aaataatcct tggggcacaa gcaataggaa aaaatggagc cgtaataaga 1200
attcatgctt tatcaattgc aatctattca aaacttacia caaaagagct agggatgatg 1260
gattttctcat attccccacc cttctcaaga acttgggata tattaaatat tgctggcaat 1320
gctgccaaat ag 1332

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&lt;210&gt; 24

&lt;211&gt; 1290

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 24

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gccgcagcta aagcaaaccg cttaaacaac aagctagaca ttactatcta tgaaaaaaca 60
aatattgtat cttttggaac ctgtggcctg cttacttttg tgggggggatt ctttgacaac 120
cccaatacaa tgatctcaag aacacaagaa gaattcgaaa aaactggaat ctctgttaaa 180
actaaccacg aagttatcaa agtagatgca aaaaacaata caattgtaat aaaaaatcaa 240
aaaacaggaa ccatttttaa caatacttac gatcaactta tgatagcaac tgggtgcaaaa 300
cctattattc caccaatcaa taatatcaat ctgaaaaatt ttcatactct gaaaaattha 360
gaagacgggtc aaaaaataaa aaaattaatg gatagagaag agattaaaaa tatagtgata 420
attgggtgggt gatacattgg aattgaaatg gtagaagcag caaaaaataa aagaaaaaat 480
gtaagattaa ttcaactaga taagcacata ctcatagatt cctttgacga agaaatagtc 540
acaataatgg aagaagaact aacaaaaaag ggggttaatc ttcatacaaa tgagtttgta 600
aaaagtttaa taggagaaaa aaaggcagaa ggagtagtaa caaacaaaaa tacttatcaa 660
gctgacgctg ttatacttgc taccggaata aaactcgaca ctgaattttt agaaaaccag 720
cttaaaaacta ctaaaaatgg agcaataaatt gtaaatgagt atggcgaaac tagcataaaa 780
aatatttttt ctgcaggaga ttgtgcaact atttataata tagtaagtaa aaaaaatgaa 840
tacataccct tggcaacaac agccaacaaa cttggaagaa tagttggtga aaatttagct 900
gggaatcata cagcatttaa aggcacattg ggctcagctt caattaaaaat actatcttta 960
gaagctgcaa gaacaggact tacagaaaaa gatgcaaaaa agctccaaat aaaatataaa 1020
acgatttttg taaaggacaa aaatcataca aattattatc caggccaaga agatctttat 1080
attaaattaa tttatgagga aaataccaaa ataatccttg gggcacaagc aataggaaaa 1140
aatggagccg taataagaat tcatgcttta tcaattgcaa tctattcaaa acttacaaca 1200
aaagagctag ggatgatgga tttctcatat tccccaccct tctcaagaac ttgggatata 1260
ttaaatattg ctggcaatgc tgccaaatag 1290

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&lt;210&gt; 25

&lt;211&gt; 440

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 25

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Met Leu Lys Phe Glu Phe Ser Asp Arg Phe Leu Leu Phe Ser Tyr Phe
  1             5             10             15

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Val Leu Ile Met Phe Ile Gly Ser Leu Leu Leu Met Leu Pro Ile Ser
          20             25             30

```

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Trp Glu Gly Asp Gly Lys Leu Ala Tyr Ile Asp Ala Leu Phe Thr Ala
      35             40             45

```

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Val Ser Ala Val Ser Ile Thr Gly Leu Thr Thr Val Lys Met Glu Gly
      50             55             60

```

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Phe Ser Thr Phe Gly Phe Ile Leu Ile Met Leu Leu Ile Gln Leu Gly
      65             70             75             80

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Gly	Leu	Gly	Phe	Ile	Ser	Ile	Thr	Thr	Phe	Tyr	Leu	Leu	Ile	Pro	Lys
				85					90					95	
Lys	Lys	Met	Asn	Leu	Thr	Asp	Ala	Arg	Ile	Ile	Lys	Gln	Tyr	Ser	Leu
			100					105					110		
Ser	Asn	Ile	Glu	Tyr	Asn	Pro	Ile	Arg	Ile	Leu	Lys	Ser	Ile	Leu	Phe
		115					120					125			
Ile	Thr	Phe	Ser	Ile	Glu	Met	Ile	Gly	Leu	Ile	Leu	Ile	Leu	Ile	Cys
	130					135					140				
Phe	Lys	Leu	Arg	Gly	Val	Asn	Ile	Ser	Phe	Leu	Glu	Ala	Leu	Phe	Thr
145					150					155					160
Thr	Ile	Ser	Ala	Phe	Cys	Asn	Ala	Gly	Phe	Ser	Met	His	Ser	Glu	Ser
				165					170					175	
Ile	Tyr	Ala	Trp	Arg	Asp	Val	Pro	Glu	Ala	Ile	Val	Val	Val	Ser	Ile
			180					185					190		
Leu	Ile	Ile	Cys	Gly	Gly	Leu	Gly	Phe	Met	Val	Tyr	Arg	Asp	Val	Asn
		195					200					205			
Asn	Thr	Ile	Lys	Asn	Lys	Lys	Lys	Leu	Ser	Leu	His	Ala	Lys	Ile	Val
	210					215					220				
Phe	Ser	Leu	Ser	Phe	Phe	Leu	Ile	Ile	Ile	Gly	Ala	Ile	Leu	Phe	Phe
225					230					235					240
Phe	Thr	Glu	Met	His	Lys	Leu	Lys	Ala	Gly	Tyr	Ser	Met	Ser	Thr	Leu
				245					250					255	
Ile	Phe	Asn	Ser	Ile	Phe	Tyr	Ser	Ile	Ser	Thr	Arg	Thr	Ala	Gly	Phe
			260					265					270		
Asn	Tyr	Leu	Asp	Asn	Ser	Leu	Ile	Ser	Gly	Arg	Thr	Gln	Ile	Ile	Ser
		275					280					285			
Leu	Pro	Phe	Met	Phe	Ile	Gly	Gly	Ala	Pro	Gly	Ser	Thr	Ala	Gly	Gly
	290					295					300				
Ile	Lys	Ile	Thr	Thr	Phe	Phe	Leu	Ile	Val	Leu	Ala	Val	Val	Lys	Asn
305					310					315					320
Gln	Asn	Gly	Asn	Gly	Tyr	Ile	Ile	Gly	Ser	Tyr	Lys	Val	Ser	Ile	Asp
				325					330					335	
Ser	Ile	Arg	Phe	Ala	Leu	Leu	Phe	Phe	Ala	Arg	Ala	Ile	Phe	Ile	Leu
			340					345					350		
Ser	Phe	Ser	Phe	Phe	Met	Leu	Leu	Phe	Phe	Glu	Gly	Gly	Ser	Gly	Asn
		355					360					365			
Trp	Lys	Val	Ile	Asp	Leu	Gly	Tyr	Glu	Val	Phe	Ser	Ala	Phe	Gly	Thr
	370					375					380				

Val Gly Leu Ser Val Gly Val Thr Gln Asp Leu Ser Phe Trp Gly Lys  
385 390 395 400

Val Ile Ile Ile Phe Thr Met Phe Ala Gly Arg Ile Gly Leu Phe Ser  
405 410 415

Met Ala Val Phe Val Ser Arg Lys Ser Arg Phe Glu Glu Phe Thr Arg  
420 425 430

Pro Arg Gln Asp Ile Leu Val Gly  
435 440

<210> 26

<211> 408

<212> PRT

<213> Homo sapiens

<400> 26

Trp Glu Gly Asp Gly Lys Leu Ala Tyr Ile Asp Ala Leu Phe Thr Ala  
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Val Ser Ala Val Ser Ile Thr Gly Leu Thr Thr Val Lys Met Glu Gly  
20 25 30

Phe Ser Thr Phe Gly Phe Ile Leu Ile Met Leu Leu Ile Gln Leu Gly  
35 40 45

Gly Leu Gly Phe Ile Ser Ile Thr Thr Phe Tyr Leu Leu Ile Pro Lys  
50 55 60

Lys Lys Met Asn Leu Thr Asp Ala Arg Ile Ile Lys Gln Tyr Ser Leu  
65 70 75 80

Ser Asn Ile Glu Tyr Asn Pro Ile Arg Ile Leu Lys Ser Ile Leu Phe  
85 90 95

Ile Thr Phe Ser Ile Glu Met Ile Gly Leu Ile Leu Ile Leu Ile Cys  
100 105 110

Phe Lys Leu Arg Gly Val Asn Ile Ser Phe Leu Glu Ala Leu Phe Thr  
115 120 125

Thr Ile Ser Ala Phe Cys Asn Ala Gly Phe Ser Met His Ser Glu Ser  
130 135 140

Ile Tyr Ala Trp Arg Asp Val Pro Glu Ala Ile Val Val Val Ser Ile  
145 150 155 160

Leu Ile Ile Cys Gly Gly Leu Gly Phe Met Val Tyr Arg Asp Val Asn  
165 170 175

Asn Thr Ile Lys Asn Lys Lys Lys Leu Ser Leu His Ala Lys Ile Val  
180 185 190

Phe Ser Leu Ser Phe Phe Leu Ile Ile Ile Gly Ala Ile Leu Phe Phe  
195 200 205

Phe Thr Glu Met His Lys Leu Lys Ala Gly Tyr Ser Met Ser Thr Leu

210                      215                      220  
 Ile Phe Asn Ser Ile Phe Tyr Ser Ile Ser Thr Arg Thr Ala Gly Phe  
 225                      230                      235                      240  
 Asn Tyr Leu Asp Asn Ser Leu Ile Ser Gly Arg Thr Gln Ile Ile Ser  
                     245                      250                      255  
 Leu Pro Phe Met Phe Ile Gly Gly Ala Pro Gly Ser Thr Ala Gly Gly  
                     260                      265                      270  
 Ile Lys Ile Thr Thr Phe Phe Leu Ile Val Leu Ala Val Val Lys Asn  
                     275                      280                      285  
 Gln Asn Gly Asn Gly Tyr Ile Ile Gly Ser Tyr Lys Val Ser Ile Asp  
                     290                      295                      300  
 Ser Ile Arg Phe Ala Leu Leu Phe Phe Ala Arg Ala Ile Phe Ile Leu  
 305                      310                      315                      320  
 Ser Phe Ser Phe Phe Met Leu Leu Phe Phe Glu Gly Gly Ser Gly Asn  
                     325                      330                      335  
 Trp Lys Val Ile Asp Leu Gly Tyr Glu Val Phe Ser Ala Phe Gly Thr  
                     340                      345                      350  
 Val Gly Leu Ser Val Gly Val Thr Gln Asp Leu Ser Phe Trp Gly Lys  
                     355                      360                      365  
 Val Ile Ile Ile Phe Thr Met Phe Ala Gly Arg Ile Gly Leu Phe Ser  
                     370                      375                      380  
 Met Ala Val Phe Val Ser Arg Lys Ser Arg Phe Glu Glu Phe Thr Arg  
 385                      390                      395                      400  
 Pro Arg Gln Asp Ile Leu Val Gly  
                     405

&lt;210&gt; 27

&lt;211&gt; 1323

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 27

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tacattgatg ctctttttac tgctgtttct gctgtaagta ttacgggcct tacaacggtt 180
aaaatggaag gcttttctac ttttggattt attttgataa tgttgctaata ccagcttggg 240
ggacttggat ttataagtat tactactttt tatttgctta tacctaaaaa gaaaatgaat 300
ttaacagatg caagaataat aaagcagtat tccctttcaa atatagaata taatcctatt 360
agaattttaa aaagcatatt gtttataact ttttcaattg aaatgatagg ttttaattatta 420
atacttattt gtttttaaact taggggagtg aatatttcat tcttagaggc tttgtttacg 480
acaatttctg ctttttgcaa tgcaggtttt tccatgcatt ctgagagtat ttatgcatgg 540
cgagatgttc ctgaagctat agttgtggtc tctattttta taatttgtgg tgggcttggg 600
tttatggtct atagagatgt aaataacact attaaaaaca aaaaaaaact atcgcttcat 660
gccaaagatag ttttttcttt aagcttcttt ttaattataa ttggtgcaat tttatttttt 720
tttacagaga ttataaaatt aaaagctggt tattcaatga gcactttaat atttaattca 780
attttttatt cgattagtac cagaacagct gggtttaatt atcttgataa ttctttaata 840

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gtcattataa tttttactat gtttcagga cgaatagggc ttttttcaat ggctgttttt 1260
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tga 1323

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&lt;210&gt; 28

&lt;211&gt; 1227

&lt;212&gt; DNA

&lt;213&gt; Homo. sapiens

&lt;400&gt; 28

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aattatcttg ataattcttt aataagcgga agaactcaaa taatttctct accattcatg 780
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ccaaggcaag atattttggt tgggtga 1227

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&lt;210&gt; 29

&lt;211&gt; 481

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 29

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Met Lys Ile Asn Lys Thr Phe Ile Leu Leu Phe Leu Phe Thr Lys Phe
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Ser Phe Val Gln Ala Gln Ala Asn Gln Ile Leu Thr Glu Ile Ser Pro
      20             25             30

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Leu Ser Ile Leu Ser Lys Asn Gly Lys Gly Ser Val Tyr Leu Lys Val
      35             40             45

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Ser Lys Ser Ser Asp Tyr Ile Leu Thr Leu Asp Lys Ser Ser Asn Ser
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Asp Phe Val Phe Lys Ile Tyr Asp Ile Ser Asn Lys Lys Tyr Ile Thr
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Asp Lys Val Lys Arg Arg Asp Phe Lys Ile Arg Leu Asp Lys Asn Ser  
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 Leu Tyr Ala Ile Ile Tyr Val Gly Thr Lys Asn Glu Asn Ile Lys Phe  
 100 105 110  
 Ser Leu Thr Asp Leu Asp Phe Ser Ile Leu Ser Ser Asp Ser Leu Lys  
 115 120 125  
 Ala Lys Thr Ser Lys Ile Glu Lys Glu Asp Leu Phe Phe Thr Leu Lys  
 130 135 140  
 Asp Leu Pro Val Leu Asn Leu Thr Ala Lys Leu Lys Lys Tyr Val Leu  
 145 150 155 160  
 Arg Ile Tyr Lys Ser Asn Ile Tyr Ile Ala Tyr Gln Leu Glu Asn Ser  
 165 170 175  
 Asp Asp Ile Lys Val Ala Glu Phe Ile Glu Asp Val Gly Trp Phe Asn  
 180 185 190  
 Leu Asp Ser Ser Val Asn Arg Asn Ile Thr Asn Ile Val Asn Phe Asp  
 195 200 205  
 Phe Ser Ile Asn Ser Lys Gly Asn Leu Tyr Ile Ala Phe Val Thr Lys  
 210 215 220  
 Ser Gly Ala Asp Phe Ala Ser Glu Leu Ile Val Lys Lys Phe Asn Ser  
 225 230 235 240  
 Arg Lys Trp Ile Asp Ile Ser Pro Gly His Ile Glu Asn Phe Gly Ser  
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 Leu Leu Asn Ile Ser Ile Asp Leu Lys Asp Arg Leu Tyr Leu Ala Tyr  
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 Leu Arg Glu Ile Arg Gly Glu Tyr Lys Ile Asn Leu Ile Ser Asn Met  
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 Gly Tyr Gly Ser Ile Trp Thr Asp Val Ile His Ala Tyr Leu Ser Lys  
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 Gly Asp Ser Asn Val Asn Ser Ser Asn Ile Gly Leu Ile Ser Glu Pro  
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 Phe Leu Gly Ile Phe Tyr Asn Tyr Lys Ser Asn Asn Glu Ile Lys Ser  
 325 330 335  
 Glu Phe Ile Val Asn Asn Glu Asn Ala Trp Val Asn Ala Asn Ile Pro  
 340 345 350  
 Ser Val Tyr Met Ala Asn Phe Ile Lys Gly Phe Phe Asp Ser Asn Phe  
 355 360 365  
 Asn Gln Ile Ile Met Ser Phe Val Ser Glu Asn Arg Pro Ile Val Asn  
 370 375 380

Ile Cys Pro Leu Lys Ser Ser Arg Trp Ile Asn Ile Ser Pro Asn Val  
 385 390 395 400

Glu Met Glu Gly Leu Ser Ala Asp Ile Gly Leu Tyr Lys Asn Asn Leu  
 405 410 415

Phe Leu Ala Phe Glu Asp Asn Asn Asn Val Arg Leu Ile Tyr Phe Lys  
 420 425 430

Asn Lys Asn Trp Tyr Phe Leu Asn Lys Leu Glu Asn Phe Lys Ser Asn  
 435 440 445

Val Lys Ser Pro Gln Ile Gly Ile Tyr Gly Asn Gln Gly Leu Val Ile  
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Ser Thr Leu Ser Ser Asn Ser Asn Glu Leu Phe Phe Thr Leu Ile Cys  
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Gln

<210> 30

<211> 458

<212> PRT

<213> Homo sapiens

<400> 30

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Leu Thr Leu Asp Lys Ser Ser Asn Ser Asp Phe Val Phe Lys Ile Tyr  
 35 40 45

Asp Ile Ser Asn Lys Lys Tyr Ile Thr Asp Lys Val Lys Arg Arg Asp  
 50 55 60

Phe Lys Ile Arg Leu Asp Lys Asn Ser Leu Tyr Ala Ile Ile Tyr Val  
 65 70 75 80

Gly Thr Lys Asn Glu Asn Ile Lys Phe Ser Leu Thr Asp Leu Asp Phe  
 85 90 95

Ser Ile Leu Ser Ser Asp Ser Leu Lys Ala Lys Thr Ser Lys Ile Glu  
 100 105 110

Lys Glu Asp Leu Phe Phe Thr Leu Lys Asp Leu Pro Val Leu Asn Leu  
 115 120 125

Thr Ala Lys Leu Lys Lys Tyr Val Leu Arg Ile Tyr Lys Ser Asn Ile  
 130 135 140

Tyr Ile Ala Tyr Gln Leu Glu Asn Ser Asp Asp Ile Lys Val Ala Glu  
 145 150 155 160

Phe Ile Glu Asp Val Gly Trp Phe Asn Leu Asp Ser Ser Val Asn Arg

165										170										175													
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			180					185					190																				
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			245					250						255																			
Tyr	Lys	Ile	Asn	Leu	Ile	Ser	Asn	Met	Gly	Tyr	Gly	Ser	Ile	Trp	Thr																		
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			405					410					415																				
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		420					425					430																					
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Asn	Glu	Leu	Phe	Phe	Thr	Leu	Ile	Cys	Gln																								
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&lt;210&gt; 31

&lt;211&gt; 1446

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 31

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caatga

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&lt;210&gt; 32

&lt;211&gt; 1377

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 32

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<211> 454

<212> PRT

<213> Homo sapiens

<400> 33

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Ile Val Ser Phe Val Gly Ile Leu Leu Ile Tyr Ser Ser Asp Tyr Asn  
35 40 45

Ile Ser Gly Ser Leu Thr Lys Asn Glu Tyr Ile Lys Gln Thr Phe Trp  
50 55 60

Val Ile Ile Gly Phe Phe Leu Ile Phe Ile Val Gly Lys Tyr Asp Leu  
65 70 75 80

Lys Phe Val Tyr Ser Met Val Tyr Pro Leu Tyr Phe Leu Leu Ile Leu  
85 90 95

Ala Leu Ile Phe Thr Ala Phe Phe Gly Met Thr Val Asn Gly Ala Arg  
100 105 110

Ser Trp Ile Gly Ile Trp Lys Leu Gly Gly Gln Pro Ser Glu Phe Gly  
115 120 125

Lys Val Val Ile Ile Leu Thr Leu Ser Lys Phe Tyr Thr Glu Lys Lys  
130 135 140

Gly Tyr Asn Glu Phe Phe Thr Phe Ile Thr Ala Phe Leu Leu Ile Phe  
145 150 155 160

Pro Ser Val Ile Leu Ile Leu Leu Gln Pro Asp Phe Gly Thr Ala Ile  
165 170 175

Val Tyr Leu Thr Ile Phe Ile Phe Ile Ser Phe Phe Ala Gly Ile Asp  
180 185 190

Leu His Tyr Val Leu Ala Phe Ala Leu Ile Gly Phe Phe Ser Phe Val  
195 200 205

Phe Ala Ile Leu Pro Val Trp Tyr Glu Tyr Lys Val Asn Met Gly Asn  
210 215 220

Val Phe Tyr Leu Ile Phe Ser Asn Pro Phe Tyr Phe Arg Val Ile Met  
225 230 235 240

Gly Val Leu Leu Leu Ile Leu Leu Ile Ser Val Leu Gly Phe Phe Ile  
245 250 255

Ser Lys Tyr Gly Leu Ser Ile Lys Ile Ile Tyr Phe Tyr Val Phe Phe  
260 265 270

Ala Ser Ser Ile Leu Leu Val Ser Ile Val Phe Ser Lys Val Leu Ser  
 275 280 285  
 Lys Leu Met Lys Thr Tyr Gln Ile Lys Arg Phe Leu Val Phe Leu Asp  
 290 295 300  
 Pro Ala Ile Asp Ala Lys Gly Ala Gly Trp Asn Leu Asn Gln Val Lys  
 305 310 315 320  
 Ile Ala Ile Gly Ser Gly Gly Leu Leu Gly Lys Gly Phe Leu Lys Gly  
 325 330 335  
 Pro Tyr Thr His Ala Asn Tyr Val Pro Ser Gln Ser Thr Asp Phe Ile  
 340 345 350  
 Phe Ser Ile Leu Ala Glu Glu Phe Gly Phe Leu Gly Val Ser Thr Ile  
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 370 375 380  
 Lys Ser Gln Asp Arg Tyr Met Ala Leu Val Ile Ser Gly Ile Leu Gly  
 385 390 395 400  
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 405 410 415  
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 20 25 30  
 Ser Leu Thr Lys Asn Glu Tyr Ile Lys Gln Thr Phe Trp Val Ile Ile  
 35 40 45  
 Gly Phe Phe Leu Ile Phe Ile Val Gly Lys Tyr Asp Leu Lys Phe Val  
 50 55 60  
 Tyr Ser Met Val Tyr Pro Leu Tyr Phe Leu Leu Ile Leu Ala Leu Ile  
 65 70 75 80

Phe Thr Ala Phe Phe Gly Met Thr Val Asn Gly Ala Arg Ser Trp Ile  
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 Gly Ile Trp Lys Leu Gly Gly Gln Pro Ser Glu Phe Gly Lys Val Val  
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 Ile Ile Leu Thr Leu Ser Lys Phe Tyr Thr Glu Lys Lys Gly Tyr Asn  
                     115                    120                    125  
 Glu Phe Phe Thr Phe Ile Thr Ala Phe Leu Leu Ile Phe Pro Ser Val  
                     130                    135                    140  
 Ile Leu Ile Leu Leu Gln Pro Asp Phe Gly Thr Ala Ile Val Tyr Leu  
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 Thr Ile Phe Ile Phe Ile Ser Phe Phe Ala Gly Ile Asp Leu His Tyr  
                     165                    170                    175  
 Val Leu Ala Phe Ala Leu Ile Gly Phe Phe Ser Phe Val Phe Ala Ile  
                     180                    185                    190  
 Leu Pro Val Trp Tyr Glu Tyr Lys Val Asn Met Gly Asn Val Phe Tyr  
                     195                    200                    205  
 Leu Ile Phe Ser Asn Pro Phe Tyr Phe Arg Val Ile Met Gly Val Leu  
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 Leu Leu Ile Leu Leu Ile Ser Val Leu Gly Phe Phe Ile Ser Lys Tyr  
                     225                    230                    235                    240  
 Gly Leu Ser Ile Lys Ile Ile Tyr Phe Tyr Val Phe Phe Ala Ser Ser  
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 Ile Leu Leu Val Ser Ile Val Phe Ser Lys Val Leu Ser Lys Leu Met  
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 Lys Thr Tyr Gln Ile Lys Arg Phe Leu Val Phe Leu Asp Pro Ala Ile  
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 Asp Ala Lys Gly Ala Gly Trp Asn Leu Asn Gln Val Lys Ile Ala Ile  
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 Gly Ser Gly Gly Leu Leu Gly Lys Gly Phe Leu Lys Gly Pro Tyr Thr  
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 His Ala Asn Tyr Val Pro Ser Gln Ser Thr Asp Phe Ile Phe Ser Ile  
                     325                    330                    335  
 Leu Ala Glu Glu Phe Gly Phe Leu Gly Val Ser Thr Ile Leu Ile Leu  
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 Asp Arg Tyr Met Ala Leu Val Ile Ser Gly Ile Leu Gly Leu Leu Phe  
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385

390

395

400

Thr Gly Ile Pro Phe Pro Phe Leu Ser Tyr Gly Gly Ser Ser Thr Ile  
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Ala Met Asp  
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 <212> DNA  
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<210> 36  
 <211> 1308  
 <212> DNA  
 <213> Homo sapiens

<400> 36  
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 aaacaaacct tttgggtaat tattggattt tttctaattt ttatagtggg caaatatgat 180  
 ttaaaatttg tttatagcat ggtatatcct ttatatttt tattaatatt ggctttaatt 240  
 tttactgcat tttttggaat gacagtaaat ggagcaagat cttggatttg catatggaaa 300  
 cttggaggac agccttctga atttggtaaa gttgttatta ttttaaccct ttcaaaattt 360  
 tacactgaaa aaaagggtta taatgaattt tttaccttta ttactgcatt tttattaatt 420  
 tttccatcgg taattcttat attattgcaa cctgattttg gtacagcaat agtatattta 480  
 accattttta tatttatttc tttttttgca ggaatagatt tgcactatgt tttagcattt 540  
 gcgttgatag gggttttttc ttttgtttt gcaattttac cgggttggta tgaatataag 600  
 gtgaatatgg gtaatgtatt ttatcttatt ttctcaaatc ctttttattt tagagtaata 660

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atgggagtg tgcctttaat tcttttgatt tctgttttag gatttttcat ttctaaatat 720
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accgggattc cctttccttt tctctcttat ggaggttctt ctactattac atttttttta 1260
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&lt;210&gt; 37

&lt;211&gt; 129

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 37

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Met Ile Val Phe Leu Phe Phe Ser Ile Tyr Leu Ile Ile Leu Phe Lys
  1             5             10             15

```

```

Arg Ser Ser Asn Ser Pro Leu Tyr Phe Val Pro Asp Thr Lys Phe Glu
      20             25             30

```

```

Thr Leu Ser Ile Arg Ile Val Leu Ser Cys Ser Leu Leu Leu Ile Phe
    35             40             45

```

```

Phe Cys Thr Met Leu Asp Ala Arg Pro Ser Thr Ile Ala Val Phe Pro
    50             55             60

```

```

Thr Pro Gly Ser Pro Ile Ser Ile Ala Leu Phe Leu Phe Leu Leu Lys
    65             70             75             80

```

```

Ser Ile Phe Val Arg Val Leu Ile Ser Ala Ser Leu Pro Thr Lys Gly
      85             90             95

```

```

Ser Asn Phe Leu Ala Phe Ala Ser Ala Val Lys Phe Leu Thr Tyr Phe
    100            105            110

```

```

Pro Ile Ser Lys Cys Ser Phe Ser Ser Arg Ile Ser Ser Ser Asn Ser
    115            120            125

```

Leu

&lt;210&gt; 38

&lt;211&gt; 108

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 38

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Pro Leu Tyr Phe Val Pro Asp Thr Lys Phe Glu Thr Leu Ser Ile Arg
  1             5             10             15

```

```

Ile Val Leu Ser Cys Ser Leu Leu Leu Ile Phe Phe Cys Thr Met Leu
    20             25             30

```

```

Asp Ala Arg Pro Ser Thr Ile Ala Val Phe Pro Thr Pro Gly Ser Pro

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35 40 45

Ile Ser Ile Ala Leu Phe Leu Phe Leu Leu Lys Ser Ile Phe Val Arg  
50 55 60

Val Leu Ile Ser Ala Ser Leu Pro Thr Lys Gly Ser Asn Phe Leu Ala  
65 70 75 80

Phe Ala Ser Ala Val Lys Phe Leu Thr Tyr Phe Pro Ile Ser Lys Cys  
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Ser Phe Ser Ser Arg Ile Ser Ser Ser Asn Ser Leu  
100 105

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<211> 390  
<212> DNA  
<213> Homo sapiens

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tcttgtagtt tgctacttat ttttttttgc actatgcttg atgcaaggcc ttcaactatt 180  
gctgtttttc ccacaccagg ttgccttatt agcattgcac tatttttatt tcttctcaag 240  
agtatatatt taagagtttt aatctctgct tctcttccaa ccaaggggtc taattttttg 300  
gcttttgcaa gtgctgttaa atttttgaca tactttccaa tttcaaagtg ctcattttca 360  
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<210> 40  
<211> 327  
<212> DNA  
<213> Homo sapiens

<400> 40  
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tgtagtttgc tacttatttt tttttgcaat atgcttgatg caaggccttc aactattgct 120  
gtttttccca caccaggttc gcctatttagc attgcactat ttttatttct tctcaagagt 180  
atatttgtaa gagttttaat ctctgcttct cttccaacca aggggtctaa ttttttggt 240  
tttgcaagtg ctgttaaatt ttgacatac tttccaattt caaagtgtc attttcaagt 300  
cgtatttctt catcaaattc tttgtag 327

<210> 41  
<211> 107  
<212> PRT  
<213> Homo sapiens

<400> 41  
Met Lys Ala Phe Lys Val Lys Asn Leu Arg Arg Phe Ser Asn Phe Ile  
1 5 10 15

Arg Ile Leu Val Ile Val Leu Phe Leu Asn Ser Leu Leu Ser Leu Phe  
20 25 30

Val Phe Leu Ala Gly Ser Tyr Asn Ile Phe Val Tyr Asn Phe Gln Lys  
35 40 45

Phe Tyr Leu Asp Leu Ala Ile Ile Leu Ser Ser Val Ser Phe Gly Leu  
50 55 60

Glu Ser Thr Arg Leu Ile Phe Phe Tyr Phe Leu Lys Asn Lys Lys Ile  
65 70 75 80

Lys Tyr Tyr Leu Ile Leu Ile Phe Ser Phe Ile Ile Phe Phe Ile Ala  
85 90 95

Leu Val Phe Lys Ile Phe Leu Ser Gly Asn Lys  
100 105

<210> 42

<211> 69

<212> PRT

<213> Homo sapiens

<400> 42

Tyr Asn Ile Phe Val Tyr Asn Phe Gln Lys Phe Tyr Leu Asp Leu Ala  
1 5 10 15

Ile Ile Leu Ser Ser Val Ser Phe Gly Leu Glu Ser Thr Arg Leu Ile  
20 25 30

Phe Phe Tyr Phe Leu Lys Asn Lys Lys Ile Lys Tyr Tyr Leu Ile Leu  
35 40 45

Ile Phe Ser Phe Ile Ile Phe Phe Ile Ala Leu Val Phe Lys Ile Phe  
50 55 60

Leu Ser Gly Asn Lys  
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<210> 43

<211> 324

<212> DNA

<213> Homo sapiens

<400> 43

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atttttggtt acaattttca gaaattttat cttgatcttg ctattatttt aagctctggt 180  
tcttttggtt ttgaatctac tagactgata tttttttatt ttttgaaaaa taaaaaaatt 240  
aagtattatt taattttaat ttttagtttt ataatttttt ttattgctct tgtttttaaa 300  
atttttcttt ctggttaataa atag 324

<210> 44

<211> 210

<212> DNA

<213> Homo sapiens

<400> 44

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aaaattaagt attatttaat ttttaatttt agttttataa ttttttttat tgctcttggt 180  
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<210> 45

<211> 155

<212> PRT

<213> Homo sapiens

<400> 45

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Met Lys Lys Leu Ile Ile Ile Phe Thr Leu Phe Leu Ser Gln Ala Cys
 1           5           10           15

Asn Leu Ser Thr Met His Lys Ile Asp Thr Lys Glu Asp Met Lys Ile
      20           25           30

Leu Tyr Ser Glu Ile Ala Glu Leu Arg Lys Lys Leu Asn Leu Asn His
      35           40           45

Leu Glu Ile Asp Asp Thr Leu Glu Lys Val Ala Lys Glu Tyr Ala Ile
      50           55           60

Lys Leu Gly Glu Asn Arg Thr Ile Thr His Thr Leu Phe Gly Thr Thr
      65           70           75           80

Pro Met Gln Arg Ile His Lys Tyr Asp Gln Ser Phe Asn Leu Thr Arg
      85           90           95

Glu Ile Leu Ala Ser Gly Ile Glu Leu Asn Arg Val Val Asn Ala Trp
      100          105          110

Leu Asn Ser Pro Ser His Lys Glu Ala Leu Ile Asn Thr Asp Thr Asp
      115          120          125

Lys Ile Gly Gly Tyr Arg Leu Lys Thr Thr Asp Asn Ile Asp Ile Phe
      130          135          140

Val Val Leu Phe Gly Lys Arg Lys Tyr Lys Asn
      145          150          155

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<210> 46

<211> 136

<212> PRT

<213> Homo sapiens

<400> 46

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Thr Met His Lys Ile Asp Thr Lys Glu Asp Met Lys Ile Leu Tyr Ser
 1           5           10           15

Glu Ile Ala Glu Leu Arg Lys Lys Leu Asn Leu Asn His Leu Glu Ile
      20           25           30

Asp Asp Thr Leu Glu Lys Val Ala Lys Glu Tyr Ala Ile Lys Leu Gly
      35           40           45

Glu Asn Arg Thr Ile Thr His Thr Leu Phe Gly Thr Thr Pro Met Gln
      50           55           60

Arg Ile His Lys Tyr Asp Gln Ser Phe Asn Leu Thr Arg Glu Ile Leu
      65           70           75           80

Ala Ser Gly Ile Glu Leu Asn Arg Val Val Asn Ala Trp Leu Asn Ser
      85           90           95

Pro Ser His Lys Glu Ala Leu Ile Asn Thr Asp Thr Asp Lys Ile Gly

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100

105

110

Gly Tyr Arg Leu Lys Thr Thr Asp Asn Ile Asp Ile Phe Val Val Leu  
 115 120 125

Phe Gly Lys Arg Lys Tyr Lys Asn  
 130 135

<210> 47  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

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 agaaaaaaat taaatctaaa ccatctagaa atagatgata cccttgaaaa agttgcaaaa 180  
 gaatatgcc aataactggg agaaaataga acaataactc acaccctttt tggcacaacc 240  
 ccaatgcaaa gaatacataa atacgatcaa tcctttaatt taacaagaga aatactggca 300  
 tcaggaattg aacttaacag agtagttaat gcatggctta atagtccaag ccacaaagaa 360  
 gctcttatta atacagatac cgataaaaata ggtggctata gattaaaaac gactgacaat 420  
 atagatatat ttgtagttct ttttggaata agaaaatata agaattga 468

<210> 48  
 <211> 411  
 <212> DNA  
 <213> Homo sapiens

<400> 48  
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 aaagaatatg ccattaaact gggagaaaaat agaacaataa ctacacacct ttttggcaca 180  
 accccaatgc aaagaataca taaatacgat caatccttta atttaacaag agaaatactg 240  
 gcatacaggaa ttgaacttaa cagagtagtt aatgcattggc ttaatagtcc aagccacaaa 300  
 gaagctctta ttaatacaga taccgataaa ataggtggct atagattaaa aacgactgac 360  
 aatatagata tattttagt tcttttttga aaaagaaaat ataagaattg a 411

<210> 49  
 <211> 633  
 <212> PRT  
 <213> Homo sapiens

<400> 49  
 Met Lys Leu Lys Ala Arg Met Leu Leu Leu Val Leu Ile Leu Ile Ala  
 1 5 10 15

Phe Phe Ile Ser Ile Leu Phe Phe Ala Phe Gly Met Leu Ile Asn Ser  
 20 25 30

Lys Leu Val Asp Gln Gln Phe Asn Leu Met Ile Asn Leu Ile Glu Ser  
 35 40 45

Ile Lys Ser Ser Phe Asn Leu Tyr Ile Ser Ser Met Glu Glu Lys Val  
 50 55 60

Arg Val Ser Ser Met Tyr Phe Asn Ser Ala Glu Lys Phe Asn Glu Ala  
 65 70 75 80

Ser Lys Ile Lys Ser Lys Arg Leu Ser Phe Ile Ser Asp Gln Ser Glu  
 85 90 95  
 Ile Leu Ile Gln Thr Gly Ser Asn Met Met Val Thr Asp Lys Glu Gly  
 100 105 110  
 Lys Ile Val Phe Thr Thr Ala Val Lys Asp Asn Ser Asp Phe Gly Lys  
 115 120 125  
 Ser Ile Gly Asp Arg Glu Tyr Phe Thr Lys Leu Lys Glu Ser Asn Ser  
 130 135 140  
 Ile Val Tyr Asn Ser Phe Val Met Leu Ala Asp Pro Gly Ser Ile Glu  
 145 150 155 160  
 Glu Ser Leu Leu Lys Asp Ile Ser Lys Ile Lys Asn Lys Lys Gly Gln  
 165 170 175  
 Ile Pro Tyr Ile Leu Ile Gly Met Pro Leu Arg Asp Phe Glu Thr Asp  
 180 185 190  
 Asn Ile Phe Gly Tyr Phe Met Phe Leu Tyr Ser Met Asp Tyr Ile Tyr  
 195 200 205  
 Arg Ser Phe Arg Gly Ile Asn Phe Gly Ile Leu Ser Ser Gly Arg Ala  
 210 215 220  
 Leu Ala Tyr Asp Thr Thr Gly Arg Leu Leu Val His His Val Val Leu  
 225 230 235 240  
 Pro Gly Asp Ile Leu Thr Asp Ile Ser Ala Ser Tyr Ser Asn Ile Ile  
 245 250 255  
 Lys Lys Thr Ser Glu Asp Leu Leu Gln Lys Asn Lys Glu Ile Ser Thr  
 260 265 270  
 Val Tyr Tyr Tyr Asp Pro Lys Ser Asn Lys Lys Tyr Val Gly Ile Ser  
 275 280 285  
 Gln Lys Val Leu Leu Asn Leu Ser Asn Asn Lys Phe Ile Leu Leu Met  
 290 295 300  
 Arg Thr Ser Glu Asp Asp Phe Tyr Tyr Met Ser Arg Ala Thr Thr Ile  
 305 310 315 320  
 Ile Leu Ala Ile Ser Phe Val Phe Thr Leu Leu Met Leu Ala Ile Ala  
 325 330 335  
 Thr Leu Tyr Leu Val Lys Lys Leu Ser Ser Ser Leu Asn Lys Ile Leu  
 340 345 350  
 Glu Tyr Ser Glu Arg Leu Ala Ser Gly Asn Phe Thr Ala Asp Ile Asn  
 355 360 365  
 Phe Gly Lys Trp Asp Thr Val Glu Leu Tyr Ser Leu Tyr Glu Gly Leu  
 370 375 380  
 Glu Gln Leu Arg Thr Asn Phe Ser Ser Val Ala Lys Gly Val Ile Glu

385                      390                      395                      400  
 Asn Leu Asp Tyr Leu Tyr Glu Asn Ala Ile Gln Ile Ala Asn Ala Ser  
                                  405                      410                      415  
 Gln Asn Leu Ser Ser Gly Ala Val Glu Gln Ala Ser Thr Leu Glu Gln  
                                  420                      425                      430  
 Met Thr Ala Asn Ile Glu Gln Ile Ser Gln Gly Val Ser Glu Asn Thr  
                                  435                      440                      445  
 Glu Asn Ala Ala Thr Thr Glu Lys Ile Ala Val Asn Thr Asn Glu Arg  
                                  450                      455                      460  
 Thr Lys Glu Gly His Lys Ser Val Val Lys Ala Ile Glu Ala Met Thr  
                                  465                      470                      475                      480  
 Val Ile Thr Glu Lys Ile Gly Ile Ile Asp Glu Ile Thr Arg Gln Thr  
                                  485                      490                      495  
 Asn Leu Leu Ala Leu Asn Ala Ser Ile Glu Ala Ala Arg Val Gly Glu  
                                  500                      505                      510  
 Lys Gly Lys Gly Phe Glu Val Val Ala Ala Glu Val Arg Lys Leu Ala  
                                  515                      520                      525  
 Asp Gln Ser Lys Glu Ser Ala Arg Glu Ile Ile Asp Ile Ala Asn Arg  
                                  530                      535                      540  
 Ser Leu Thr Val Ala Ser Arg Ala Gly Glu Asn Phe Glu Gln Ile Val  
                                  545                      550                      555                      560  
 Pro Gly Met Glu Gln Thr Ala Arg Leu Val Lys Asn Ile Ser Asn Glu  
                                  565                      570                      575  
 Ser Tyr Lys Gln Ser Val Gln Ile Glu Gln Phe Lys Asn Ala Ile Glu  
                                  580                      585                      590  
 Gln Val Ser Gln Leu Val Gln Thr Thr Ala Ser Ser Ser Glu Glu Leu  
                                  595                      600                      605  
 Ser Ala Met Ser Glu Lys Met Leu Glu Ser Val Lys Asp Leu Lys Glu  
                                  610                      615                      620  
 Ser Val Asp Tyr Phe Lys Ile Glu Lys  
                                  625                      630  
  
 <210> 50  
 <211> 606  
 <212> PRT  
 <213> Homo sapiens  
  
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 Asn Leu Ile Glu Ser Ile Lys Ser Ser Phe Asn Leu Tyr Ile Ser Ser  
                                  20                                    25                                    30



Met	Glu	Glu	Lys	Val	Arg	Val	Ser	Ser	Met	Tyr	Phe	Asn	Ser	Ala	Glu	35	40	45
Lys	Phe	Asn	Glu	Ala	Ser	Lys	Ile	Lys	Ser	Lys	Arg	Leu	Ser	Phe	Ile	50	55	60
Ser	Asp	Gln	Ser	Glu	Ile	Leu	Ile	Gln	Thr	Gly	Ser	Asn	Met	Met	Val	65	70	75
Thr	Asp	Lys	Glu	Gly	Lys	Ile	Val	Phe	Thr	Thr	Ala	Val	Lys	Asp	Asn	85	90	95
Ser	Asp	Phe	Gly	Lys	Ser	Ile	Gly	Asp	Arg	Glu	Tyr	Phe	Thr	Lys	Leu	100	105	110
Lys	Glu	Ser	Asn	Ser	Ile	Val	Tyr	Asn	Ser	Phe	Val	Met	Leu	Ala	Asp	115	120	125
Pro	Gly	Ser	Ile	Glu	Glu	Ser	Leu	Leu	Lys	Asp	Ile	Ser	Lys	Ile	Lys	130	135	140
Asn	Lys	Lys	Gly	Gln	Ile	Pro	Tyr	Ile	Leu	Ile	Gly	Met	Pro	Leu	Arg	145	150	155
Asp	Phe	Glu	Thr	Asp	Asn	Ile	Phe	Gly	Tyr	Phe	Met	Phe	Leu	Tyr	Ser	165	170	175
Met	Asp	Tyr	Ile	Tyr	Arg	Ser	Phe	Arg	Gly	Ile	Asn	Phe	Gly	Ile	Leu	180	185	190
Ser	Ser	Gly	Arg	Ala	Leu	Ala	Tyr	Asp	Thr	Thr	Gly	Arg	Leu	Leu	Val	195	200	205
His	His	Val	Val	Leu	Pro	Gly	Asp	Ile	Leu	Thr	Asp	Ile	Ser	Ala	Ser	210	215	220
Tyr	Ser	Asn	Ile	Ile	Lys	Lys	Thr	Ser	Glu	Asp	Leu	Leu	Gln	Lys	Asn	225	230	235
Lys	Glu	Ile	Ser	Thr	Val	Tyr	Tyr	Tyr	Asp	Pro	Lys	Ser	Asn	Lys	Lys	245	250	255
Tyr	Val	Gly	Ile	Ser	Gln	Lys	Val	Leu	Leu	Asn	Leu	Ser	Asn	Asn	Lys	260	265	270
Phe	Ile	Leu	Leu	Met	Arg	Thr	Ser	Glu	Asp	Asp	Phe	Tyr	Tyr	Met	Ser	275	280	285
Arg	Ala	Thr	Thr	Ile	Ile	Leu	Ala	Ile	Ser	Phe	Val	Phe	Thr	Leu	Leu	290	295	300
Met	Leu	Ala	Ile	Ala	Thr	Leu	Tyr	Leu	Val	Lys	Lys	Leu	Ser	Ser	Ser	305	310	315
Leu	Asn	Lys	Ile	Leu	Glu	Tyr	Ser	Glu	Arg	Leu	Ala	Ser	Gly	Asn	Phe	325	330	335

Thr Ala Asp Ile Asn Phe Gly Lys Trp Asp Thr Val Glu Leu Tyr Ser  
 340 345 350  
 Leu Tyr Glu Gly Leu Glu Gln Leu Arg Thr Asn Phe Ser Ser Val Ala  
 355 360 365  
 Lys Gly Val Ile Glu Asn Leu Asp Tyr Leu Tyr Glu Asn Ala Ile Gln  
 370 375 380  
 Ile Ala Asn Ala Ser Gln Asn Leu Ser Ser Gly Ala Val Glu Gln Ala  
 385 390 395 400  
 Ser Thr Leu Glu Gln Met Thr Ala Asn Ile Glu Gln Ile Ser Gln Gly  
 405 410 415  
 Val Ser Glu Asn Thr Glu Asn Ala Ala Thr Thr Glu Lys Ile Ala Val  
 420 425 430  
 Asn Thr Asn Glu Arg Thr Lys Glu Gly His Lys Ser Val Val Lys Ala  
 435 440 445  
 Ile Glu Ala Met Thr Val Ile Thr Glu Lys Ile Gly Ile Ile Asp Glu  
 450 455 460  
 Ile Thr Arg Gln Thr Asn Leu Leu Ala Leu Asn Ala Ser Ile Glu Ala  
 465 470 475 480  
 Ala Arg Val Gly Glu Lys Gly Lys Gly Phe Glu Val Val Ala Ala Glu  
 485 490 495  
 Val Arg Lys Leu Ala Asp Gln Ser Lys Glu Ser Ala Arg Glu Ile Ile  
 500 505 510  
 Asp Ile Ala Asn Arg Ser Leu Thr Val Ala Ser Arg Ala Gly Glu Asn  
 515 520 525  
 Phe Glu Gln Ile Val Pro Gly Met Glu Gln Thr Ala Arg Leu Val Lys  
 530 535 540  
 Asn Ile Ser Asn Glu Ser Tyr Lys Gln Ser Val Gln Ile Glu Gln Phe  
 545 550 555 560  
 Lys Asn Ala Ile Glu Gln Val Ser Gln Leu Val Gln Thr Thr Ala Ser  
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gaagagaaaag ttagggttag ttccatgtat ttcaactctg ctgaaaaatt taatgaggct 240
agtaaaaatta aatccaaaag gttgagcttt atttcagatc aatctgaaat tcttattcaa 300
accggtagta atatgatggg tacagacaaa gaaggtaaaa tagtggttac tacggcggtt 360
aaggataata gtgatttttg caaatctatt ggggatagag aatattttac aaaacttaag 420
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gctgctgagg ttagaaagct tgcagatcaa agcaagaat cagcaagaga gattattgat 1620
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cctgggtatg aacaaacagc cagacttgta aaaaatattt ctaatgaaag ttataagcaa 1740
agtgttcaaa tagagcaatt taaaaatgca atagcaggt ttagttagtt agtccaaact 1800
acagcctcaa gcagtgaaga gctttctgca atgtctgaaa agatgttaga gagtgtaaaa 1860
gatttaaaag aatctgttga ttattttaag atcgaaaagt aa 1902

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<210> 52

<211> 1821

<212> DNA

<213> Homo sapiens

<400> 52

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atgcttatta atagtaaaatt ggtggatcaa cagtttaatc ttatgataaa tcttattgaa 60
agcattaaaa gttcttttaa tctttacatc tcttcaatgg aagagaaagt tagggtagt 120
tccatgtatt tcaactctgc tgaaaaaatt aatgaggcta gtaaaattaa atccaaaagg 180
ttgagcttta ttccagatca atctgaaatt cttattcaaa ccggtagtaa tatgatgggt 240
acagacaaaag aaggtaaaat agtggtttact acggcggtta aggataatag tgattttggc 300
aaatctattg gggatagaga atattttaca aaacttaagg agtctaatag tattgtttac 360
aattcctttg tcatgtttggc agatcccggt tctattgagg agtctttact taaagatatt 420
tccaagataa aaaaataaaa aggtcagatt ccttacatat taatagggtat gccattaaga 480
gattttgaaa cagataacat ttttggttat tttatgtttc tttattcaat ggattatata 540
tatagggtct ttagagggat taattttgga atactctcta gcggctcgtgc gctagcttat 600
gatactacgg gtagattggt ggttcatcat gtagtattgc cagggtgatat tttgactgat 660
attagtgtct ctatttccaa tattattaag aaaacatctg aagattttgt gcaaaagaat 720
aaagaaattt caactgttta ttattatgat cctaaaagca ataagaaata tgtgggaatt 780
agtcaaaagg tgtttataa cttgtctaatt aataaattta tctttttaat gagaacttca 840
gaggacgatt tttattacat gtcacgagct acaactataa tcttagcaat tagttttgta 900
tttacattac ttatgcttgc tattgcaact ctttatcttg tgaaaaagtt aagctcttct 960
ttgaataaga tactggaata ttctgagaga cttgcttctg gtaattttac tgctgatatt 1020
aattttggca aatgggatac tgtagagctt tacagtttgt acgaagggtt tgagcagttg 1080
agaaccaatt tttcttcagt tgcaaaagga gttattgaaa atctagatta tctttatgaa 1140
aatgcaattc aaatagcaaa tgcaagccag aatttaagtt ctggcgctgt tgagcaggct 1200

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tctacttttag agcaaatgac agcaaatatt gagcaaatTTT cacaagggtgt ttctgagaat 1260  
 actgaaaatg cagctactac tgaaaaaatt gctgttaata ctaatgaaag gactaaagag 1320  
 gggcataaat ctgttggttaa ggctattgag gcaatgactg taattactga aaaaattgga 1380  
 attattgatg agataacaag gcaaaccaat ttgcttgctt taaatgcctc gattgaagct 1440  
 gcacgagtgG gagaaaaggG caagggattt gaagtggtag ctgctgaggt tagaaagctt 1500  
 gcagatcaaaa gcaaagaatc agcaagagag attattgata ttgcaaacag aagttttaact 1560  
 gttgcaagtc gtgctggggg aaattttgaa caaatagttc ctggtatgga acaaacagcc 1620  
 agacttgtaa aaaatatttc taatgaaagt tataagcaaa gtgttcaaT agagcaattt 1680  
 aaaaatgcaa tagagcaggT tagtcagtta gtccaaacta cagcctcaag cagtgaagag 1740  
 ctttctgcaa tgtctgaaaa gatgttagag agtgtaaaag atttaaaaga atctgttgat 1800  
 tattttaaga tcgaaaagta a 1821

<210> 53

<211> 229

<212> PRT

<213> Homo sapiens

<400> 53

Met Arg Phe Ile Ile Ala Phe Leu Met Ile Leu Asn Gln Gly Phe Ser  
 1 5 10 15

Asn Leu Phe Ser Leu Pro Pro Glu Asp Ile Ile Phe Glu Ser Ser Tyr  
 20 25 30

Glu Val Ala Ile Lys Lys Ala Gln Lys Leu Asn Lys Asn Val Leu Ile  
 35 40 45

Leu Val Gly Arg Asp Ile Lys Glu Asn Leu Ile Lys Asp Phe Leu Asn  
 50 55 60

Ser Phe Thr Asn Gly Glu Ile Ile His Lys Val Ser Arg Lys Ser Val  
 65 70 75 80

Phe Leu Val Ile Asp Lys Asp Asn Glu Ile Phe Asn Lys Ile Asn Leu  
 85 90 95

Gln Lys Ser Pro Thr Ile Phe Phe Val Asp Ser Lys Asn Glu Gln Ile  
 100 105 110

Lys Ala Ala Tyr Val Gly Ala Val Leu Ser Ser Val Gln Phe Asp Lys  
 115 120 125

Asp Phe Leu Asn Tyr Val Met Gly Ala Ile Lys Ser Thr Ser Val Leu  
 130 135 140

Lys Lys Gln Lys Asp Tyr Glu Ile Asn Thr Ala Asp Glu Arg Thr Phe  
 145 150 155 160

Phe Tyr Lys Thr Leu Lys Gly Asp Trp Arg Leu Lys Phe Asn Gly Lys  
 165 170 175

Asp Arg Lys Leu Val Leu Phe Asp Thr Asp Leu Lys Glu Phe Leu Val  
 180 185 190

Phe Lys Asp Ile Asn Glu Asn Lys Leu Tyr Ala Ile Pro Lys Ser Arg  
 195 200 205

Ile Gly Asn Ile Tyr Phe Ser Leu Leu Gly Asn Glu Glu Trp Lys Leu

210

215

220

Phe Gly Lys Ile Lys  
225

&lt;210&gt; 54

&lt;211&gt; 690

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 54

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atgagattta taattgcatt tttaatgatt tttaatcaag gattttcaaa tttgttttct 60
ttgcctccgg aagatattat ttttgagagt tcttatgagg ttgcaattaa aaaagctcaa 120
aaattgaata aaaatgtttt aatttttggt ggtagagata ttaaagaaaa ttttaataaaa 180
gattttttta actctttttac aaatggtgaa attattcaca aagtatctag aaaaagtgtt 240
tttttagtta ttgataagga taatgaaatt ttttaataaaa ttaatctaca aaaaagtccg 300
actatttttt ttgttgattc taagaatgag caaataaagg cagcttatgt gggagctgtt 360
ttgagcagtg ttcaatttga taaggatttt ttaaaactat ttatgggagc tataaaatca 420
acaagtgttt taaaaaagca aaaagattat gaaattaata ctgctgatga gagaaccttt 480
ttttacaaaa cattaaaagg tgattggcga ttaaagttta atggtaaaga cagaaagctt 540
gttctttttg atacagatct taaagaattt ttagttttta aagatattaa tgaaaacaag 600
ctttatgcta ttcctaagtc taggattggt aatatttatt tttcattatt gggaaatgaa 660
gaatggaagc tttttggaaa aataaaataa 690

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&lt;210&gt; 55

&lt;211&gt; 630

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 55

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ttgcctccgg aagatattat ttttgagagt tcttatgagg ttgcaattaa aaaagctcaa 60
aaattgaata aaaatgtttt aatttttggt ggtagagata ttaaagaaaa ttttaataaaa 120
gattttttta actctttttac aaatggtgaa attattcaca aagtatctag aaaaagtgtt 180
tttttagtta ttgataagga taatgaaatt ttttaataaaa ttaatctaca aaaaagtccg 240
actatttttt ttgttgattc taagaatgag caaataaagg cagcttatgt gggagctgtt 300
ttgagcagtg ttcaatttga taaggatttt ttaaaactat ttatgggagc tataaaatca 360
acaagtgttt taaaaaagca aaaagattat gaaattaata ctgctgatga gagaaccttt 420
ttttacaaaa cattaaaagg tgattggcga ttaaagttta atggtaaaga cagaaagctt 480
gttctttttg atacagatct taaagaattt ttagttttta aagatattaa tgaaaacaag 540
ctttatgcta ttcctaagtc taggattggt aatatttatt tttcattatt gggaaatgaa 600
gaatggaagc tttttggaaa aataaaataa 630

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&lt;210&gt; 56

&lt;211&gt; 133

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 56

Met Gln Asp Arg Lys Phe Ser Phe Arg Lys Tyr Phe Leu Ile Ser Val  
1 5 10 15

Phe Leu Ile Phe Ile Val Ser Gly Ile Thr Tyr Phe Tyr Ser Thr Gln  
20 25 30

Met Leu Glu Lys Ser Gln Lys Cys Val Glu Asp Asn Leu Asp Ala Lys  
35 40 45

Val Lys Leu Val Asp Met Glu Asp Phe Tyr Phe Asp Leu Asn Glu Cys

[illegible]

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<210> 57
<211> 103
<212> PRT
<213> Homo sapiens
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<400> 57
Thr Gln Met Leu Glu Lys Ser Gln Lys Cys Val Glu Asp Asn Leu Asp
  1             5             10             15

Ala Lys Val Lys Leu Val Asp Met Glu Asp Phe Tyr Phe Asp Leu Asn
      20             25             30

Glu Cys Leu Asn Met Asp Asp Phe Phe Ile Pro Arg Pro Asp Phe Leu
      35             40             45

Asn Glu Asn Leu Asn Lys Asn Leu Val Val Asp Gly Leu Ile Lys Asn
  50             55             60

Lys Phe Leu Asp Glu Asn Phe Phe Lys Asp Leu Trp Ile Lys Lys Glu
  65             70             75             80

Asn Leu Phe Asn Val Asp Ile Glu Lys Glu Asn Glu Lys Leu Ile Asp
      85             90             95

Lys Ile Leu Glu Ile Ser Lys
      100

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<210> 58
<211> 402
<212> DNA
<213> Homo sapiens
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<400> 58						
atgcaagata	gaaagtttag	tttttagaaaa	tattttttaa	tttcagtatt	tttgattttt	60
attgtttctg	gtattactta	tttctattca	acacaaatgt	tggaaaaaatc	tcaaaagtgt	120
gttgaagaca	atntagacgc	taagggttaa	ttagttgata	tggaaagattt	ttatttttgat	180
ttaaatgaat	gtctaaatat	ggatgatttt	tttattccaa	gacctgattt	tttaaatgaa	240
aattttaaat	agaatttagt	tgttgatgga	tgtattaaaa	ataaattttct	tgatgagaat	300
tttttcaagg	atctttggat	taaaaaggaa	aatttatttta	acgttgatat	tgagaaggag	360
aatgaaaaat	taatagataa	gatttttagaa	atttccaaat	ga		402

<210> 59  
 <211> 312  
 <212> DNA  
 <213> Homo sapiens

<400> 59  
 acacaaatgt tggaaaaatc tcaaaagtgt gttgaagaca atttagacgc taagggttaa 60  
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 ttattccaa gacctgattt tttaaatgaa aatttaaata agaatttagt tgttgatgga 180  
 ttgattaaaa ataaatttct tgatgagaat tttttcaagg atctttggat taaaaaggaa 240  
 aatttattta acgttgatat tgagaaggag aatgaaaaat taatagataa gattttagaa 300  
 atttccaaat ga 312

<210> 60  
 <211> 346  
 <212> PRT  
 <213> Homo sapiens

<400> 60  
 Met Ile Arg Lys Tyr Leu Ile Tyr Ile Ser Leu Leu Phe Ile Val Phe  
 1 5 10 15  
 Glu Val Tyr Ser Lys Pro Ala Phe Ile Ser Gln Asp Asp Ser Tyr Glu  
 20 25 30  
 Leu Asp Phe Ser Ser Gly Glu Val Asp Ile Ser Val Asn Thr Asn Ser  
 35 40 45  
 Lys Phe Asn Leu Ser Phe Lys Asp Glu Ser Trp Ile Tyr Ile Lys Ser  
 50 55 60  
 Ile Glu Asn Glu Ala Phe Ile Lys Leu Ile Gly Glu Ser Tyr Asp Asn  
 65 70 75 80  
 Gly Ala Val Phe Thr Phe Gln Thr Phe Lys Lys Glu Gly Lys Ile Lys  
 85 90 95  
 Leu Val Phe Thr Tyr Gln Asn Val Lys Asp Ser Ser Glu Phe Asn Lys  
 100 105 110  
 Ile Ile Ile Leu Lys Ile Thr Lys Asn Phe Glu Val Ala Ile Pro Gln  
 115 120 125  
 Gly Val Gly Gly Gly Ser Ser Arg Asp Asn Asn Ile Glu Thr Gly Asn  
 130 135 140  
 Asn Leu Glu Leu Gly Gly Gly Ser Ile Ser Gly Ala Thr Ser Lys Glu  
 145 150 155 160  
 Ile Ile Val Arg Ala Leu Asn Leu Ser Tyr Ile Asn Asp Tyr Lys Gly  
 165 170 175  
 Ala Ile Asp Leu Leu Asn Lys Tyr Asn Phe Asn Asp Asp Lys Tyr Ile  
 180 185 190  
 Leu Leu Lys Ala Glu Ile His Tyr Lys Asn Gly Asp Tyr Leu Lys Ser  
 195 200 205

Tyr Glu Asn Tyr Leu Lys Leu Lys Ser Lys Tyr Phe Gln Ser Ile Val  
210 215 220

Phe Asp Leu Ile Arg Leu Ala Ile Glu Leu Asn Ile Lys Glu Glu Val  
225 230 235 240

Leu Glu Asn Ala Arg Tyr Leu Val Glu Lys Asn Val Asp Phe Ser Glu  
245 250 255

Ser Ile Tyr Leu Glu Ile Phe Glu Phe Leu Val Thr Arg Gly Glu His  
260 265 270

Glu Phe Ala Leu Asn Phe Ser Ser Leu Tyr Phe Pro Lys Tyr Ile Asn  
275 280 285

Ser Ser Phe Ser Asp Lys Tyr Ser Tyr Leu Leu Gly Lys Leu Tyr Glu  
290 295 300

Ser Glu Ser Lys His Lys Asp Phe Leu Lys Ala Leu His Tyr Tyr Lys  
305 310 315 320

Leu Val Ile Asp Asn Tyr Pro Phe Ser Tyr Tyr Tyr Glu Arg Ala Lys  
325 330 335

Ile Arg Tyr Leu Phe Leu Lys Arg Phe Phe  
340 345

<210> 61

<211> 326

<212> PRT

<213> Homo sapiens

<400> 61

Lys Pro Ala Phe Ile Ser Gln Asp Asp Ser Tyr Glu Leu Asp Phe Ser  
1 5 10 15

Ser Gly Glu Val Asp Ile Ser Val Asn Thr Asn Ser Lys Phe Asn Leu  
20 25 30

Ser Phe Lys Asp Glu Ser Trp Ile Tyr Ile Lys Ser Ile Glu Asn Glu  
35 40 45

Ala Phe Ile Lys Leu Ile Gly Glu Ser Tyr Asp Asn Gly Ala Val Phe  
50 55 60

Thr Phe Gln Thr Phe Lys Lys Glu Gly Lys Ile Lys Leu Val Phe Thr  
65 70 75 80

Tyr Gln Asn Val Lys Asp Ser Ser Glu Phe Asn Lys Ile Ile Ile Leu  
85 90 95

Lys Ile Thr Lys Asn Phe Glu Val Ala Ile Pro Gln Gly Val Gly Gly  
100 105 110

Gly Ser Ser Arg Asp Asn Asn Ile Glu Thr Gly Asn Asn Leu Glu Leu  
115 120 125

Gly Gly Gly Ser Ile Ser Gly Ala Thr Ser Lys Glu Ile Ile Val Arg



130 135 140

Ala Leu Asn Leu Ser Tyr Ile Asn Asp Tyr Lys Gly Ala Ile Asp Leu  
 145 150 155 160

Leu Asn Lys Tyr Asn Phe Asn Asp Asp Lys Tyr Ile Leu Leu Lys Ala  
 165 170 175

Glu Ile His Tyr Lys Asn Gly Asp Tyr Leu Lys Ser Tyr Glu Asn Tyr  
 180 185 190

Leu Lys Leu Lys Ser Lys Tyr Phe Gln Ser Ile Val Phe Asp Leu Ile  
 195 200 205

Arg Leu Ala Ile Glu Leu Asn Ile Lys Glu Glu Val Leu Glu Asn Ala  
 210 215 220

Arg Tyr Leu Val Glu Lys Asn Val Asp Phe Ser Glu Ser Ile Tyr Leu  
 225 230 235 240

Glu Ile Phe Glu Phe Leu Val Thr Arg Gly Glu His Glu Phe Ala Leu  
 245 250 255

Asn Phe Ser Ser Leu Tyr Phe Pro Lys Tyr Ile Asn Ser Ser Phe Ser  
 260 265 270

Asp Lys Tyr Ser Tyr Leu Leu Gly Lys Leu Tyr Glu Ser Glu Ser Lys  
 275 280 285

His Lys Asp Phe Leu Lys Ala Leu His Tyr Tyr Lys Leu Val Ile Asp  
 290 295 300

Asn Tyr Pro Phe Ser Tyr Tyr Tyr Glu Arg Ala Lys Ile Arg Tyr Leu  
 305 310 315 320

Phe Leu Lys Arg Phe Phe  
 325

&lt;210&gt; 62

&lt;211&gt; 1041

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 62

atgattagaa aatatttgat ttatataagt ttgctattta ttgtttttga agtttactct 60  
 aagccagctt ttataagtca agacgattcg tatgagcttg attttagtag tggagaggta 120  
 gatattagtg taaataccaa ttcaaaattt aatctttctt ttaaagatga gtcttggatt 180  
 tatatcaaaa gcattgaaaa tgaagctttt attaagttaa ttggagaatc ttatgataac 240  
 ggtgctgttt ttacttttca gactttttaa aaagaaggca aaattaaatt ggttttcact 300  
 tatcaaaatg ttaaagattc aagtgaattt aataaaataa ttatcttgaa aattacaaag 360  
 aattttgaag ttgcaattcc acaaggcgtt ggtggtggct cttagcaggga caataacatt 420  
 gaaactggta ataactctga acttgggggg gggagtatta gcggggcaac ttctaaagag 480  
 attattgtta gggcttttaa tttgtcctac ataaatgatt acaaaggagc aatagatttg 540  
 cttaataagt ataatttcaa tgacgataaa tatattttat tgaaggcgga aattcattat 600  
 aaaaatgggtg attattttaa atcttatgaa aattatttga aattgaagag taaatatttt 660  
 caaagcattg tttttgatct aattaggctt gctatagaat taaatattaa agaagagggt 720  
 ttagagaacg ctatgatatt agttgaaaag aatggttgatt tttctgagag catttatctt 780  
 gagatctttg aattcttagt aacaagggga gagcatgagt ttgcttttaa ttttagctct 840

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ctttactttc ctaagtatat taattcaagc ttttcagaca aatatagtta tttgttgagg 900
aaactttatg agtctgagag caagcataaa gatttttttaa aggctttgca ttactataaa 960
ttgggtattg ataattaccc ttttagttat tattatgaga gagccaagat aagatattta 1020
tttttaaagc gggttttttta g 1041

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<210> 63  
 <211> 981  
 <212> DNA  
 <213> Homo sapiens

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<400> 63
aagccagctt ttataagtca agacgattcg tatgagcttg attttagtag tggagaggta 60
gatatttagt taaataccaa ttcaaaatct aatctttctt ttaaagatga gtcttggatt 120
tatatcaaaa gcattgaaaa tgaagctttt attaagttaa ttggagaatc ttatgataac 180
gggtgctgtt ttacttttca gactttttaa aaagaaggca aaattaaatt ggttttcact 240
tatcaaaatg ttaaagattc aagtgaatct aataaaataa ttatcttgaa aattacaaag 300
aattttgaag ttgcaattcc acaaggcggt ggtggtggct ctacgaggga caataacatt 360
gaaactggta ataactctga acttgggggg gggagtatta gcggggcaac ttctaaagag 420
attattgtta gggcttttaa tttgtcctac ataaatgatt acaaaggagc aatagatttg 480
cttaataagt ataatttcaa tgacgataaa tatattttat tgaaggcgga aattcattat 540
aaaaatgggt attattttaa atcttatgaa aattatttga aattgaagag taaatatttt 600
caaagcattg tttttgatct aattaggcct gctatagaat taaatattaa agaagagggt 660
ttagagaacg ctatgatatt agttgaaaag aatgttgatt tttctgagag ctttatctt 720
gagatctttg aattcttagt aacaagggga gagcatgagt ttgcttttaa ttttagctct 780
ctttactttc ctaagtatat taattcaagc ttttcagaca aatatagtta tttgttgagg 840
aaactttatg agtctgagag caagcataaa gattttttta aggctttgca ttactataaa 900
ttgggtattg ataattaccc ttttagttat tattatgaga gagccaagat aagatattta 960
tttttaaagc gggttttttta g 981

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<210> 64  
 <211> 505  
 <212> PRT  
 <213> Homo sapiens

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<400> 64
Met Thr Lys Val Leu Val Val Ser Ala Ile Ala Leu Leu Ser Lys Asp
  1          5          10          15

Lys Glu Leu Ile Pro Phe Tyr Lys Phe Leu Phe Leu Phe Phe Phe
  20          25          30

Thr Leu Leu Ala Cys Ser Lys Val Ser Lys Asp Phe Ile Val Phe Asn
  35          40          45

Lys Asp Val Lys Thr Ser Ser Arg Ile Asp Asn Pro Asn Ser Asn Val
  50          55          60

Leu Glu Val Asn Lys Met Glu Asp Phe Phe Gly Asp Ile Ile Asp Leu
  65          70          75          80

Lys Gly Tyr Lys Ile Leu Ser Val Gln Gln Glu Asn Leu Asn Leu Asp
  85          90          95

Val Tyr Phe Glu Gln Val Val Leu Ala Gln Asn Phe Ser Asn Leu Asn
 100          105          110

Ala Tyr Leu Phe Ile Ile Gly Phe Asp Pro Lys Ile Lys Ala Gly Thr
 115          120          125

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Ile Leu Phe Lys Thr Gln Ile Asp Ile Asp Pro Lys Asn Ser Tyr Asn  
 130 135 140  
 Met Tyr Leu Glu Asp Ile Thr Gly Asp Tyr Asp Phe Asn Ile Val Ile  
 145 150 155 160  
 Gln Gly Phe Leu Lys Asp Lys Ser Val Leu Tyr Val Phe Gln Lys Ser  
 165 170 175  
 Val Leu Asn Asp Val Ser Ser Tyr Arg Pro Ile Phe Phe Asp Lys Val  
 180 185 190  
 Asn Gly Thr Val Leu Ile Asn Lys Tyr Ala Arg Ser Ser Ala Tyr Glu  
 195 200 205  
 Glu Asn Arg Ser Arg Glu Ser Tyr Pro Ile Ser Leu Glu Lys Tyr Glu  
 210 215 220  
 Lys Val Gly Glu Asp Leu Ile Ile Ser Lys Ile Glu Lys Tyr Glu Tyr  
 225 230 235 240  
 Ser Asn Val Gln Gly Arg Tyr Cys Leu Ser Ser Val Ser Glu Lys Val  
 245 250 255  
 Gly Lys Ile Asp Asn Asn Ile Tyr Lys Thr Leu Lys Asn Leu Ser Lys  
 260 265 270  
 Asp Glu Val Tyr Lys Phe Leu His Gly Val Trp Tyr Asp Val His Asp  
 275 280 285  
 Tyr Asn Lys Met His Val Lys Asp Ile Asp Glu Val Leu Phe Leu Ser  
 290 295 300  
 Phe Glu Arg Gln Ser Ser Glu Ile Asn Leu Phe Arg Lys Asn Ser Gln  
 305 310 315 320  
 Glu Val Ala Lys Ile Glu Tyr Ile Ser Lys Pro Ala Tyr Asn Thr Leu  
 325 330 335  
 Asn Val Ser Ala Lys Ser Leu Phe Ser Asp Leu Ile Val Tyr Asn Phe  
 340 345 350  
 Trp Ile Lys Ile Val Asp Lys Glu Asn Ile Glu Ile Lys Ile Asp Thr  
 355 360 365  
 Ser Thr Asn Ser Tyr Asp Asn Ser Gly Phe Ser Gly Thr Phe Lys Arg  
 370 375 380  
 Phe Asp Glu Asn Val Leu Asn Val Lys Lys Gly Ser Ser Asp Ile Tyr  
 385 390 395 400  
 Phe Ile Pro Ser Gly Asn Tyr Val Tyr Lys Asp Lys Ile Tyr Asp Phe  
 405 410 415  
 Ser Tyr Pro His Leu Thr Tyr Ile Asp Glu Asn Lys Ile Tyr Tyr Gly  
 420 425 430

Ile Phe Asn Ile Phe Pro Leu Lys Asn Asn Phe Val Leu Glu Tyr Glu  
435 440 445

Ile Asp Met Gly Ser Tyr Lys Leu Val Glu Ser Phe Phe Leu Glu His  
450 455 460

Ser Glu Arg Ile Val Gln Lys Gln Lys Phe Ser Thr Ile Ile Leu Asn  
465 470 475 480

Pro Ile Lys Ile Leu Lys Asp Asp Val Ser Leu Val Lys Gly Gln Lys  
485 490 495

Leu Lys Leu Glu Arg Ile Glu Lys Ile  
500 505

<210> 65

<211> 491

<212> PRT

<213> Homo sapiens

<400> 65

Lys Asp Lys Glu Leu Ile Pro Phe Tyr Lys Phe Leu Phe Leu Phe Phe  
1 5 10 15

Phe Phe Thr Leu Leu Ala Cys Ser Lys Val Ser Lys Asp Phe Ile Val  
20 25 30

Phe Asn Lys Asp Val Lys Thr Ser Ser Arg Ile Asp Asn Pro Asn Ser  
35 40 45

Asn Val Leu Glu Val Asn Lys Met Glu Asp Phe Phe Gly Asp Ile Ile  
50 55 60

Asp Leu Lys Gly Tyr Lys Ile Leu Ser Val Gln Gln Glu Asn Leu Asn  
65 70 75 80

Leu Asp Val Tyr Phe Glu Gln Val Val Leu Ala Gln Asn Phe Ser Asn  
85 90 95

Leu Asn Ala Tyr Leu Phe Ile Ile Gly Phe Asp Pro Lys Ile Lys Ala  
100 105 110

Gly Thr Ile Leu Phe Lys Thr Gln Ile Asp Ile Asp Pro Lys Asn Ser  
115 120 125

Tyr Asn Met Tyr Leu Glu Asp Ile Thr Gly Asp Tyr Asp Phe Asn Ile  
130 135 140

Val Ile Gln Gly Phe Leu Lys Asp Lys Ser Val Leu Tyr Val Phe Gln  
145 150 155 160

Lys Ser Val Leu Asn Asp Val Ser Ser Tyr Arg Pro Ile Phe Phe Asp  
165 170 175

Lys Val Asn Gly Thr Val Leu Ile Asn Lys Tyr Ala Arg Ser Ser Ala  
180 185 190

Tyr Glu Glu Asn Arg Ser Arg Glu Ser Tyr Pro Ile Ser Leu Glu Lys

195					200					205					
Tyr	Glu	Lys	Val	Gly	Glu	Asp	Leu	Ile	Ile	Ser	Lys	Ile	Glu	Lys	Tyr
210						215					220				
Glu	Tyr	Ser	Asn	Val	Gln	Gly	Arg	Tyr	Cys	Leu	Ser	Ser	Val	Ser	Glu
225					230					235					240
Lys	Val	Gly	Lys	Ile	Asp	Asn	Asn	Ile	Tyr	Lys	Thr	Leu	Lys	Asn	Leu
				245					250					255	
Ser	Lys	Asp	Glu	Val	Tyr	Lys	Phe	Leu	His	Gly	Val	Trp	Tyr	Asp	Val
		260						265						270	
His	Asp	Tyr	Asn	Lys	Met	His	Val	Lys	Asp	Ile	Asp	Glu	Val	Leu	Phe
	275						280					285			
Leu	Ser	Phe	Glu	Arg	Gln	Ser	Ser	Glu	Ile	Asn	Leu	Phe	Arg	Lys	Asn
	290					295					300				
Ser	Gln	Glu	Val	Ala	Lys	Ile	Glu	Tyr	Ile	Ser	Lys	Pro	Ala	Tyr	Asn
305					310					315					320
Thr	Leu	Asn	Val	Ser	Ala	Lys	Ser	Leu	Phe	Ser	Asp	Leu	Ile	Val	Tyr
				325					330					335	
Asn	Phe	Trp	Ile	Lys	Ile	Val	Asp	Lys	Glu	Asn	Ile	Glu	Ile	Lys	Ile
		340						345					350		
Asp	Thr	Ser	Thr	Asn	Ser	Tyr	Asp	Asn	Ser	Gly	Phe	Ser	Gly	Thr	Phe
		355					360					365			
Lys	Arg	Phe	Asp	Glu	Asn	Val	Leu	Asn	Val	Lys	Lys	Gly	Ser	Ser	Asp
	370					375					380				
Ile	Tyr	Phe	Ile	Pro	Ser	Gly	Asn	Tyr	Val	Tyr	Lys	Asp	Lys	Ile	Tyr
385					390					395					400
Asp	Phe	Ser	Tyr	Pro	His	Leu	Thr	Tyr	Ile	Asp	Glu	Asn	Lys	Ile	Tyr
				405					410					415	
Tyr	Gly	Ile	Phe	Asn	Ile	Phe	Pro	Leu	Lys	Asn	Asn	Phe	Val	Leu	Glu
			420					425					430		
Tyr	Glu	Ile	Asp	Met	Gly	Ser	Tyr	Lys	Leu	Val	Glu	Ser	Phe	Phe	Leu
		435					440					445			
Glu	His	Ser	Glu	Arg	Ile	Val	Gln	Lys	Gln	Lys	Phe	Ser	Thr	Ile	Ile
	450					455					460				
Leu	Asn	Pro	Ile	Lys	Ile	Leu	Lys	Asp	Asp	Val	Ser	Leu	Val	Lys	Gly
465					470					475					480
Gln	Lys	Leu	Lys	Leu	Glu	Arg	Ile	Glu	Lys	Ile					
				485					490						

&lt;210&gt; 66

&lt;211&gt; 1518

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 66

```

atgacaaagg ttttggttgt tagtgcgatt gctcttctga gtaaggataa agaattaatc 60
ccattttata aatttttggt tttattcttt ttttttacat tacttgcttg ttccaaggta 120
agcaaagatt ttattgtttt taacaaagat gtaaagactt cttccaggat cgataatcca 180
aattccaatg ttttagaagt taataaaatg gaagattttt ttggagatat tatagattta 240
aaagggtata aaattctttc agttcagcag gaaaatttaa atttagatgt gtattttgag 300
cagggtggtt tagctcaaaa tttttcaaat cttaatgcat atttgtttat tattgggttt 360
gatcctaata ttaaaagctgg aacgattcct tttaaaactc aaatagatat tgatccaaaa 420
aattcttata acatgtatct tgaagatatt acagggtgatt atgattttta tatagttatt 480
caaggatttt taaaagataa atctgttttg tatgtttttc aaaaatctgt tttaaatgat 540
gtgtcttctt ataggcctat attttttgac aaagttaatg gaactgttct tattaataag 600
tatgcaagat cttcagctta tgaagaaaac agatcaagag aaagctatcc tatttcttta 660
gaaaaatatg aaaaagtggg ggaagattta ataattagca agattgaaaa atatgaatat 720
tctaagtgtc agggtagata ttgtctttct tctgtgagcg aaaaagtgtg taaaattgat 780
aataatattt ataaaacttt aaagaattta agcaaagatg aagtttataa atttttgc 840
ggagtgttgt atgatgttca tgactataat aaaatgcatg tcaaagatat tgatgaagt 900
ttattcttgt cttttgaaag gcaatcaagc gagattaatc ttttcaggaa aaattctcaa 960
gaagtgtcaa agattgaata tatttcaaaa cctgcttaca atactcttaa tgtagtgca 1020
aagtctcttt tttcagattt gatagtttat aacttttgga tcaaaattgt agataaagaa 1080
aacattgaaa tcaaaattga cactagcaca aattcttatg ataatagtgg attttcgggt 1140
acatttaaga ggtttgatga gaatgtctta aatgttaaaa aagggagtag tgatatttat 1200
tttattccta gtggaaatta cgtgtataag gataaaattt atgatttttc ttacccccat 1260
ttaacttata ttgatgagaa taaaatttat tatggcattt ttaatatatt tcttttaaaa 1320
aataattttg ttcttgaata tgagattgac atgggtagtt acaagcttgt tgaatctttt 1380
ttccttgagc atagcgaag aattgttcaa aagcaaaaat tttctacaat cattttaaat 1440
cctattaaaa ttttaaaaga tgatgtaagc ttagttaaag ggcaaaaatt aaagcttgag 1500
cgaatagaaa aaatatga                                     1518

```

&lt;210&gt; 67

&lt;211&gt; 1476

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 67

```

aaggataaag aattaatccc attttataaa tttttgtttt tattcttttt ttttacatta 60
cttgcttgtt ccaaggtaag caaagatttt attgttttta acaaagatgt aaagacttct 120
tccaggatcg ataatccaaa ttccaatggt ttagaagtta ataaaatgga agattttttt 180
ggagatatta tagatttaaa aggttataaa attctttcag ttcagcagga aaattttaat 240
ttagatgtgt attttgagca ggtggtttta gctcaaaatt tttcaaatct taatgcatat 300
ttgtttatta ttgggttttg tcctaaaatt aaagctggaa cgattctttt taaaactcaa 360
atagatattg atccaaaaaa ttcttataac atgtatcttg aagatattac aggtgattat 420
gatttttaata tagttattca aggattttta aaagataaat ctgttttgta tgtttttcaa 480
aaatctgttt taaatgatgt gtcttcttat aggcctatat tttttgacaa agttaatgga 540
actgttctta ttaataagta tgcaagatct tcagcttatg aagaaaacag atcaagagaa 600
agctatccta tttcttttaga aaaatatgaa aaagtggggg aagatttaat aattagcaag 660
attgaaaaat atgaatatcc taatgttcag ggtagatatt gtctttcttc tgtgagcgaa 720
aaagttggta aaattgataa taatatttat aaaactttaa agaatttaag caaagatgaa 780
gtttataaat ttttgcatgg agtttggtat gatgttcacg actataataa aatgcatgtc 840
aaagatattg atgaagtttt attcttgtct tttgaaaggc aatcaagcga gattaatctt 900
ttcaggaaaa attctcaaga agttgcaaag attgaatata tttcaaaacc tgcttacaat 960
actcttaatg ttagtgcaaa gtctcttttt tcagatttga tagtttataa cttttggatc 1020
aaaattgtag ataaagaaaa cattgaaatc aaaattgaca ctagcacaaa tctttatgat 1080
aagagtggat tttcgggtac atttaagagg tttgatgaga atgtcttaaa tgttaaaaaa 1140
gggagtagtg atatttattt tattcctagt ggaaattacg tgtataagga taaaatttat 1200
gatttttctt acccccattt aacttatatt gatgagaata aaatttatta tggcattttt 1260

```

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aatatttttc ctttaaaaaa taattttgtt cttgaatatg agattgacat gggtagttac 1320
aagcttggtg aatctttttt ccttgagcat agcgaaagaa ttgttcaaaa gcaaaaattt 1380
tctacaatca ttttaaatcc tattaaaatt ttaaaagatg atgtaagctt agttaaaggg 1440
caaaaattaa agcttgagcg aatagaaaaa atatga 1476

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<210> 68  
 <211> 179  
 <212> PRT  
 <213> Homo sapiens

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<400> 68
Met Asn Lys Leu Leu Ile Phe Val Leu Ala Thr Phe Cys Val Phe Ser
  1           5           10           15

Ser Phe Ala Gln Ala Asn Asp Ser Lys Asn Gly Ala Phe Gly Met Ser
          20          25          30

Ala Gly Glu Lys Leu Leu Val Tyr Glu Thr Ser Lys Gln Asp Pro Ile
      35          40          45

Val Pro Phe Leu Leu Asn Leu Phe Leu Gly Phe Gly Ile Gly Ser Phe
      50          55          60

Ala Gln Gly Asp Ile Leu Gly Gly Ser Leu Ile Leu Gly Phe Asp Ala
      65          70          75          80

Val Gly Ile Gly Leu Ile Leu Ala Gly Ala Tyr Leu Asp Ile Lys Ala
      85          90          95

Leu Asp Gly Ile Thr Lys Lys Ala Ala Phe Gln Trp Thr Trp Gly Lys
      100         105         110

Gly Val Met Leu Ala Gly Val Val Thr Met Ala Val Thr Arg Leu Thr
      115         120         125

Glu Ile Ile Leu Pro Phe Thr Phe Ala Asn Ser Tyr Asn Arg Lys Leu
      130         135         140

Lys Asn Ser Leu Asn Val Ala Leu Gly Gly Phe Glu Pro Ser Phe Asp
      145         150         155         160

Val Ala Met Gly Gln Ser Ser Ala Leu Gly Phe Glu Leu Ser Phe Lys
      165         170         175

Lys Ser Tyr

```

<210> 69  
 <211> 158  
 <212> PRT  
 <213> Homo sapiens

```

<400> 69
Asn Asp Ser Lys Asn Gly Ala Phe Gly Met Ser Ala Gly Glu Lys Leu
  1           5           10           15

Leu Val Tyr Glu Thr Ser Lys Gln Asp Pro Ile Val Pro Phe Leu Leu
      20          25          30

```

Asn Leu Phe Leu Gly Phe Gly Ile Gly Ser Phe Ala Gln Gly Asp Ile  
35 40 45

Leu Gly Gly Ser Leu Ile Leu Gly Phe Asp Ala Val Gly Ile Gly Leu  
50 55 60

Ile Leu Ala Gly Ala Tyr Leu Asp Ile Lys Ala Leu Asp Gly Ile Thr  
65 70 75 80

Lys Lys Ala Ala Phe Gln Trp Thr Trp Gly Lys Gly Val Met Leu Ala  
85 90 95

Gly Val Val Thr Met Ala Val Thr Arg Leu Thr Glu Ile Ile Leu Pro  
100 105 110

Phe Thr Phe Ala Asn Ser Tyr Asn Arg Lys Leu Lys Asn Ser Leu Asn  
115 120 125

Val Ala Leu Gly Gly Phe Glu Pro Ser Phe Asp Val Ala Met Gly Gln  
130 135 140

Ser Ser Ala Leu Gly Phe Glu Leu Ser Phe Lys Lys Ser Tyr  
145 150 155

<210> 70

<211> 540

<212> DNA

<213> Homo sapiens

<400> 70

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gctaatagatt ctaaaaatgg tgcgtttggg atgagtgcgtg gagaaaaact tttggtttat 120  
gaaactagca agcaagatcc tattgtacca tttttattga accttttttt agggtttggg 180  
ataggctcct ttgctcaagg agatattctt ggaggttctc ttattcttgg atttgatgcg 240  
gttggatatag ggcttatact tgcgggggct tatttggata tcaaagcgct tgatgggtatt 300  
actaaaaaag ctgcttttca atggacttgg ggtaaggagg ttatgttagc aggtgtgggt 360  
actatggctg tgacaagatt aacagaaatt attcttccat ttacatttgc taatagttat 420  
aataggaagc taaaaaatag ccttaatgta gctttaggag gatttgaacc tagttttgat 480  
gttgcaatgg gccaatccag tgctcttggg tttgaactgt ctttcaaaaa aagctattaa 540

<210> 71

<211> 477

<212> DNA

<213> Homo sapiens

<400> 71

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actagcaagc aagatcctat tgtaccattt ttattgaacc tttttttagg gtttgggaata 120  
ggctcctttg ctcaaggaga tattcttggg gggtctctta ttcttggatt tgatgcgggt 180  
ggtatagggc ttatacttgc gggggcttat ttggatatca aagcgcttga tgggtattact 240  
aaaaaagctg cttttcaatg gacttggggt aaggaggtta tgtagcagg tgtggttact 300  
atggctgtga caagattaac agaaattatt cttccattta catttgctaa tagttataat 360  
aggaagctaa aaaatagcct taatgtagct ttaggaggat ttgaacctag ttttgatggt 420  
gcaatgggcc aatccagtgc tcttgggttt gaactgtctt tcaaaaaaag ctattaa 477

<210> 72

<211> 212



&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 72

Met Arg Lys Tyr Ile Phe Ile Ile Leu Ile Ala Val Leu Leu Ile Gly  
 1 5 10 15

Val Asn Ile Lys Lys Ile Ala Ala Ala Asn Ile Asp Arg His Thr  
 20 25 30

Asn Ser Thr Leu Gly Ile Asp Leu Ser Val Gly Ile Pro Ile Phe Tyr  
 35 40 45

Asn Asp Leu Ser Lys Ala Tyr Pro Thr Asn Leu Tyr Pro Gly Gly Ile  
 50 55 60

Gly Ala Ile Lys Tyr Gln Tyr His Ile Leu Asn Asn Leu Ala Ile Gly  
 65 70 75 80

Leu Glu Leu Arg Tyr Met Phe Asn Phe Asp Ile Asn His Ser Phe Asn  
 85 90 95

Ile Leu Asn Pro Asp Ser Ser Val Gly Lys Ile Phe Tyr Ser Val Pro  
 100 105 110

Ile Thr Phe Ser Ile Asn Tyr Ile Phe Asp Ile Gly Glu Leu Phe Gln  
 115 120 125

Ile Pro Val Phe Thr Asn Ile Gly Phe Ser Leu Asn Thr Tyr Gly Asp  
 130 135 140

Arg Asn Asn Asn Ile Thr Asn Leu Arg Thr Phe Asp Ala Leu Pro Thr  
 145 150 155 160

Ile Ser Phe Gly Ser Gly Ile Leu Trp Asn Phe Asn Tyr Lys Trp Ala  
 165 170 175

Phe Gly Ala Thr Ala Ser Trp Trp Met Met Phe Glu Phe Gly Asn Ser  
 180 185 190

Ala Lys Met Ala His Phe Ala Leu Val Ser Leu Ser Val Thr Val Asn  
 195 200 205

Val Asn Lys Leu  
 210

&lt;210&gt; 73

&lt;211&gt; 187

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 73

Ala Asn Ile Asp Arg His Thr Asn Ser Thr Leu Gly Ile Asp Leu Ser  
 1 5 10 15

Val Gly Ile Pro Ile Phe Tyr Asn Asp Leu Ser Lys Ala Tyr Pro Thr  
 20 25 30

Asn Leu Tyr Pro Gly Gly Ile Gly Ala Ile Lys Tyr Gln Tyr His Ile  
35 40 45

Leu Asn Asn Leu Ala Ile Gly Leu Glu Leu Arg Tyr Met Phe Asn Phe  
50 55 60

Asp Ile Asn His Ser Phe Asn Ile Leu Asn Pro Asp Ser Ser Val Gly  
65 70 75 80

Lys Ile Phe Tyr Ser Val Pro Ile Thr Phe Ser Ile Asn Tyr Ile Phe  
85 90 95

Asp Ile Gly Glu Leu Phe Gln Ile Pro Val Phe Thr Asn Ile Gly Phe  
100 105 110

Ser Leu Asn Thr Tyr Gly Asp Arg Asn Asn Asn Ile Thr Asn Leu Arg  
115 120 125

Thr Phe Asp Ala Leu Pro Thr Ile Ser Phe Gly Ser Gly Ile Leu Trp  
130 135 140

Asn Phe Asn Tyr Lys Trp Ala Phe Gly Ala Thr Ala Ser Trp Trp Met  
145 150 155 160

Met Phe Glu Phe Gly Asn Ser Ala Lys Met Ala His Phe Ala Leu Val  
165 170 175

Ser Leu Ser Val Thr Val Asn Val Asn Lys Leu  
180 185

<210> 74

<211> 639

<212> DNA

<213> Homo sapiens

<400> 74

atgagaaagt atatTTTTat aatactaatt gcagtcctgc taattggtgt aaacataaaa 60  
aaaattgctg ccgcagccaa tattgatagg catataaact ccactttagg aatagattta 120  
agtgtaggaa tccctatTTT ttacaacgac ttatcaaaag cttatcctac caattttatat 180  
ccaggaggta ttggggcaat aaaataccag taccatatTT taaacaattt agcaattgga 240  
cttgaactaa ggtatatgTT taactttgat attaaccatt cttttaatat attaaatcca 300  
gattcaagt taggtaaaat tttttatagc gtgcctatta cattttcaat aaattatata 360  
tttgatatag gagaattatt tcaaattcca gtcttcacaa atatagggtt ttctcttaat 420  
acatatggag atagaaacaa caatattaca aatttaagaa cttttgatgc actccctaca 480  
atctcttttg gatctggaat tttatggaac tttaactata aatgggcttt tggagcaaca 540  
gcatcttggg ggatgatgTT tgaatttga aattctgcta aaatggcaca ttttgcaatt 600  
gtatcattat cagttacagt gaattgtaaa aaattgtag 639

<210> 75

<211> 564

<212> DNA

<213> Homo sapiens

<400> 75

gccaatattg ataggcatat aaactccact ttaggaatag atttaagtgt aggaatccct 60  
attttttaca acgacttatc aaaagcttat cctaccaatt tatatccagg aggtattggg 120  
gcaataaaat accagtacca tattttaaac aatttagcaa ttggacttga actaagggtat 180  
atgtttaact ttgatattaa ccattctttt aatatattaa atccagattc aagtgtagg 240

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aaaatttttt atagcgtgcc tattacattt tcaataaatt atatatttga tataggagaa 300
ttattttcaaa ttccagtctt cacaaatata gggttttctc ttaatacata tggagataga 360
aacaacaata ttacaaattt aagaactttt gatgcactcc ctacaatctc ttttggatct 420
ggaattttat ggaactttaâ ctataaatgg gcttttggag caacagcatc ttggtggatg 480
atgtttgaat ttggaaattc tgctaaaatg gcacattttg cacttgtatc attatcagtt 540
acagtgaatg taaataaatt gtag 564

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<210> 76

<211> 379

<212> PRT

<213> Homo sapiens

<400> 76

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Met Lys Asn Gln Phe Leu Asn Ser Tyr Phe Gln Leu Ile Thr Thr Ile
  1              5              10              15

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Phe Leu Ile Ser Ser Ile Thr Ile Ala Ala Glu Glu Ile Thr Ser Thr
      20              25              30

```

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Leu Lys Val Pro Asn Gly Phe Lys Val Glu Ile Phe Leu Asn Asn Thr
      35              40              45

```

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Ile Glu Lys Pro Arg Gly Ile Thr Ser Asp Gln Asp Gly Asn Ile Phe
      50              55              60

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Ile Gly Ser Gly Ser Thr Phe Ala Tyr Phe Val Thr Lys Asn Arg Lys
      65              70              75              80

```

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Ile Tyr Thr Ile Ala Lys Thr Leu Gln Lys Pro Ile Gly Ile Asp Tyr
      85              90              95

```

```

Trp Asp Asn Lys Leu Tyr Ile Ser Ser Val Asp Lys Ile Tyr Val Val
      100              105              110

```

```

Lys Asn Val Lys Glu Glu Ile Asn Lys Ser Ile Lys Ser His Lys Asp
      115              120              125

```

```

Tyr Thr Trp Lys Met Gln Ile Phe Ala Leu Leu Pro Lys Asn Asn Ser
      130              135              140

```

```

Gln Met His Ser Gly Arg Tyr Ile Lys Val Asp Ser Lys Asn Asn Lys
      145              150              155              160

```

```

Leu Ile Val Asn Ile Gly Ser Gln His Asn Val Lys Ile Pro Pro Lys
      165              170              175

```

```

Lys Glu Ala Val Ile Leu Ser Ile Asn Leu Lys Thr Lys Lys Glu Glu
      180              185              190

```

```

Ile Val Ala Phe Gly Val Arg Asn Ser Val Gly Phe Asp Phe His Pro
      195              200              205

```

```

Ile Ser Asn Glu Ile Tyr Phe Ser Asp Asn Gly Gln Asp Gly Leu Gly
      210              215              220

```

```

Asp Asn ile Pro Pro Asp Glu Ile Asn Val Ile Thr Glu Tyr Lys Glu
      225              230              235              240

```

His Phe Gly Phe Pro Tyr Val Phe Gly Lys Asn Gln Lys Asn Tyr Gly  
245 250 255

Phe Tyr Asn Lys Ala Pro Lys Asn Thr Lys Phe Ile Pro Ser Ile Tyr  
260 265 270

Glu Leu Pro Ala His Val Ala Pro Leu Gly Ile His Phe Tyr Arg Gly  
275 280 285

Asn Asn Phe Pro Lys Glu Tyr Ile Asn Lys Leu Phe Ile Ala Glu His  
290 295 300

Gly Ser Trp Asn Arg Ser Ser Pro Val Gly Tyr Lys Ile Thr Thr Leu  
305 310 315 320

Asp Ile Asp Ser Lys Thr Arg Thr Ala Arg Asn Tyr Lys Thr Phe Leu  
325 330 335

Tyr Gly Phe Leu Lys His Asp Lys Ser Lys Phe Gly Arg Pro Val Asp  
340 345 350

Ile Ile Thr Tyr Tyr Asp Gly Ser Ile Leu Phe Thr Asp Asp Phe Gly  
355 360 365

Asn Lys Ile Tyr Arg Val Tyr Tyr Glu Lys Ile  
370 375

<210> 77

<211> 352

<212> PRT

<213> Homo sapiens

<400> 77

Glu Ile Thr Ser Thr Leu Lys Val Pro Asn Gly Phe Lys Val Glu Ile  
1 5 10 15

Phe Leu Asn Asn Thr Ile Glu Lys Pro Arg Gly Ile Thr Ser Asp Gln  
20 25 30

Asp Gly Asn Ile Phe Ile Gly Ser Gly Ser Thr Phe Ala Tyr Phe Val  
35 40 45

Thr Lys Asn Arg Lys Ile Tyr Thr Ile Ala Lys Thr Leu Gln Lys Pro  
50 55 60

Ile Gly Ile Asp Tyr Trp Asp Asn Lys Leu Tyr Ile Ser Ser Val Asp  
65 70 75 80

Lys Ile Tyr Val Val Lys Asn Val Lys Glu Glu Ile Asn Lys Ser Ile  
85 90 95

Lys Ser His Lys Asp Tyr Thr Trp Lys Met Gln Ile Phe Ala Leu Leu  
100 105 110

Pro Lys Asn Asn Ser Gln Met His Ser Gly Arg Tyr Ile Lys Val Asp  
115 120 125

Ser Lys Asn Asn Lys Leu Ile Val Asn Ile Gly Ser Gln His Asn Val

130                      135                      140  
 Lys Ile Pro Pro Lys Lys Glu Ala Val Ile Leu Ser Ile Asn Leu Lys  
 145                      150                      155                      160  
 Thr Lys Lys Glu Glu Ile Val Ala Phe Gly Val Arg Asn Ser Val Gly  
                     165                      170                      175  
 Phe Asp Phe His Pro Ile Ser Asn Glu Ile Tyr Phe Ser Asp Asn Gly  
                     180                      185                      190  
 Gln Asp Gly Leu Gly Asp Asn Ile Pro Pro Asp Glu Ile Asn Val Ile  
                     195                      200                      205  
 Thr Glu Tyr Lys Glu His Phe Gly Phe Pro Tyr Val Phe Gly Lys Asn  
                     210                      215                      220  
 Gln Lys Asn Tyr Gly Phe Tyr Asn Lys Ala Pro Lys Asn Thr Lys Phe  
                     225                      230                      235                      240  
 Ile Pro Ser Ile Tyr Glu Leu Pro Ala His Val Ala Pro Leu Gly Ile  
                     245                      250                      255  
 His Phe Tyr Arg Gly Asn Asn Phe Pro Lys Glu Tyr Ile Asn Lys Leu  
                     260                      265                      270  
 Phe Ile Ala Glu His Gly Ser Trp Asn Arg Ser Ser Pro Val Gly Tyr  
                     275                      280                      285  
 Lys Ile Thr Thr Leu Asp Ile Asp Ser Lys Thr Arg Thr Ala Arg Asn  
                     290                      295                      300  
 Tyr Lys Thr Phe Leu Tyr Gly Phe Leu Lys His Asp Lys Ser Lys Phe  
                     305                      310                      315                      320  
 Gly Arg Pro Val Asp Ile Ile Thr Tyr Tyr Asp Gly Ser Ile Leu Phe  
                     325                      330                      335  
 Thr Asp Asp Phe Gly Asn Lys Ile Tyr Arg Val Tyr Tyr Glu Lys Ile  
                     340                      345                      350

&lt;210&gt; 78

&lt;211&gt; 1140

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 78

atgaaaaatc aattttttaa tagctatttt caattaatta caactatttt cttaattctca 60  
 tctataacta ttgcagcaga agaaataaca agcacactaa aagttcctaa tggattttaa 120  
 gtcgaaattt ttttaaacaa tacaattgaa aaacctagag gaatcacaag cgatcaagat 180  
 ggaaatatat tcataggatc tggaagcact tttgcatact ttgtaacaaa aaacagaaaa 240  
 atttatacca tagcaaaaac cctgcaaaaa cctattggta ttgattattg ggataataaa 300  
 ctctacatat cttctgtcga taaaatatat gtagttaaata atgtaaaaga agaaattaat 360  
 aaaagcataa aatcacataa agactataca tggaaaaatgc aaatttttgc acttttgcca 420  
 aaaaataatt ctcaaatgca ctcaggacgt tacattaaag tagattctaa aaataacaaa 480

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ttaatagtaa atataggatc ccagcacaat gttaaaattc ccccaaaaaa agaagcagta 540
atccttagta ttaattttaa aacaaaaaaa gaagaaatag tagcttttgg agtgagaaac 600
tcagttgggt ttgattttca cccaattagc aatgaaatat atttttagcg caatggccaa 660
gacggattag gagacaacat tccccagat gaaataaacg taataaccga atataaagaa 720
cattttgggt ttccctatgt gtttggaata aatcaaaaaa attacggttt ttataacaaa 780
gcacccaaaa acactaagtt tatcccatct atttacgaac ttcccgca ttagctcca 840
cttgaatac acttttaccg gggaaataac tttccaaaag aatacataaa taaattattc 900
atagcagaac acggctcgtg gaacagatct tctcctgttg gctacaaaat aacaacacta 960
gacattgatt ctaaaaccag aacagcaaga aattacaaga cttttttata tggattttta 1020
aagcacgaca aatctaaatt tggacgccct gttgatataa tcacatatta tgacggttca 1080
attcttttta cagatgactt tggaaataaa atatacagag tttactacga aaagatttaa 1140

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&lt;210&gt; 79

&lt;211&gt; 1059

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 79

```

gaaataacaa gcacactaaa agttcctaag ggattttaaag tcgaaatttt tttaaacaat 60
acaattgaaa aacctagagg aatcacagc gatcaagatg gaaatatatt cataggatct 120
ggaagcactt ttgcatactt tgtaacaaaa aacagaaaaa tttataccat agcaaaaacc 180
ctgcaaaaac ctattgggtat tgattattgg gataataaac tctacatatc ttctgtcgat 240
aaaatatatg tagttaaaaa tgtaaaagaa gaaattaata aaagcataaa atcacataaa 300
gactatacat ggaaaatgca aatttttgca cttttgccaa aaaataattc tcaaatgcac 360
tcaggacggt acattaaagt agatttctaa aataacaaat taatagtaaa tataggatcc 420
cagcacaatg ttaaaattcc cccaaaaaaa gaagcagtaa tccttagtat taattttaa 480
acaaaaaaag aagaaatagt agcttttgga gtgagaaact cagttgggtt tgattttcac 540
ccaattagca atgaaatata ttttagcgac aatggccaag acggattagg agacaacatt 600
ccccagatg aaataaacgt aataaccgaa tataaagaac attttggatt tccctatgtg 660
tttggaaaaa atcaaaaaaa ttacggtttt tataacaaag cacccaaaaa cactaagttt 720
atcccatcta tttacgaact tcccgcacat gtagctccac ttggaataca cttttaccg 780
ggaaataact ttccaaaaga atacataaat aaattattca tagcagaaca cggctcgtgg 840
aacagatctt ctctgttggt ctacaaaata acaacactag acattgattc taaaaccaga 900
acagcaagaa attacaagac ttttttatat ggatttttaa agcacgacaa atctaaattt 960
ggacgccctg ttgatataat cacatattat gacggttcaa ttctttttac agatgacttt 1020
ggaaataaaa tatacagagt ttactacgaa aagatttaa 1059

```

&lt;210&gt; 80

&lt;211&gt; 123

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 80

```

Met Asn Tyr Ala Arg Phe Ala Val Leu Ile Val Leu Leu Phe Phe Tyr
  1                      5                      10                      15

```

```

Ile Trp Phe Phe Ile Ile Leu Arg Met Lys Arg Thr Asn Leu Phe Leu
          20                      25                      30

```

```

Leu Glu Lys Ile Gln Asn Gly Ala Lys Ile Leu Asp Ile Arg Ser Pro
          35                      40                      45

```

```

Lys Glu Tyr Ser Lys Ser His Tyr Leu Lys Ser Ile Asn Ile Pro Phe
          50                      55                      60

```

```

Asn Asn Leu Phe Ala Lys Lys Asp Lys Leu Gly Asp Phe Glu Ser Pro
          65                      70                      75                      80

```

Ile Ile Val Tyr Gly Lys Ser Phe Asn Lys Ser Tyr Glu Ala Lys Lys  
85 90 95

Val Leu Lys Ser Met Gly Phe Lys Asn Val Phe Val Ala Gly Thr Leu  
100 105 110

Lys Asp Met Pro Gln Ala Lys Lys Glu Val Gly  
115 120

<210> 81

<211> 100

<212> PRT

<213> Homo sapiens

<400> 81

Arg Met Lys Arg Thr Asn Leu Phe Leu Leu Glu Lys Ile Gln Asn Gly  
1 5 10 15

Ala Lys Ile Leu Asp Ile Arg Ser Pro Lys Glu Tyr Ser Lys Ser His  
20 25 30

Tyr Leu Lys Ser Ile Asn Ile Pro Phe Asn Asn Leu Phe Ala Lys Lys  
35 40 45

Asp Lys Leu Gly Asp Phe Glu Ser Pro Ile Ile Val Tyr Gly Lys Ser  
50 55 60

Phe Asn Lys Ser Tyr Glu Ala Lys Lys Val Leu Lys Ser Met Gly Phe  
65 70 75 80

Lys Asn Val Phe Val Ala Gly Thr Leu Lys Asp Met Pro Gln Ala Lys  
85 90 95

Lys Glu Val Gly  
100

<210> 82

<211> 372

<212> DNA

<213> Homo sapiens

<400> 82

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aaaatttttg atattcggtc tcccaaagaa tatagcaagt ctcatatttt gaagtcaatt 180  
aacattcctt ttaataattt atttgctaaa aaggataaat taggtgattt tgagtcacca 240  
ataattgttt atggtaaaag ttttaataag tcttacgagg ctaaaaaagt tttaaaaagc 300  
atgggattta agaattgtgt tggtgctgga accttgaaag acatgccaca agcaaaaaaa 360  
gaagttgggt ga 372

<210> 83

<211> 303

<212> DNA

<213> Homo sapiens

<400> 83

aggatgaaaa gaactaatct gtttttgtag gaaaaaatcc aaaatggagc aaaaattttg 60  
gatattcggg ctcccaaaga atatagcaag tctcattatt tgaagtcaat taacattcct 120

```

tttaataatt tatttgctaa aaaggataaa ttaggtgatt ttgagtcgcc aataattgtt 180
tatggtaaaa gttttaataa gtcttacgag gctaaaaaag ttttaaaaag catgggattt 240
aagaatgtgt ttgttgctgg aaccttgaaa gacatgccac aagcaaaaaa agaagttggt 300
tga 303

```

<210> 84  
 <211> 204  
 <212> PRT  
 <213> Homo sapiens

```

<400> 84
Met Ile Lys Lys Phe Leu Leu Phe Ala Met Leu Asn Ile Phe Leu Thr
  1          5          10          15
Asn Lys Ala His Ser Asn Glu Glu Ile Ile Glu Ile Ser Thr Glu Ile
      20          25          30
Gln Lys Glu Lys Tyr Ile Pro Phe Leu Ile Ser Arg Gly Lys Thr Gln
      35          40          45
Leu Glu Asp Leu Val Lys Tyr Thr Leu Glu Ile Asn Pro Glu Leu Asp
      50          55          60
Lys Asn Tyr Val Asn Thr Val Ala Lys Thr Tyr Ile Asp Glu Ser Leu
      65          70          75          80
Ile Glu Gly Val Asn Tyr Asp Ile Ala Tyr Ala Gln Met Leu Leu Glu
      85          90          95
Thr Gly Ala Leu Lys Phe Asn Gly Ile Val Ser Lys Glu Gln His Asn
      100         105         110
Phe Ser Gly Ile Gly Ala Thr Asn Asn Leu Thr Lys Gly Asn Ser Phe
      115         120         125
Ser Asn Ile Thr Glu Gly Ile Lys Ala His Ile Gln His Leu Lys Ala
      130         135         140
Tyr Ala Ser Lys Gln Asn Ile Lys Ser Asn Met Val Asp Pro Arg Phe
      145         150         155         160
Tyr Leu Val Lys Arg Gly Ser Ala Pro Thr Ile Tyr Asp Leu Thr Gly
      165         170         175
Lys Trp Ala Lys Asp Lys Leu Tyr Asp Lys Lys Leu Lys Lys Ile Leu
      180         185         190
Leu Glu Leu Leu Glu Tyr Asn Asn Ala Asn Lys Ser
      195         200

```

<210> 85  
 <211> 183  
 <212> PRT  
 <213> Homo sapiens

```

<400> 85
Asn Glu Glu Ile Ile Glu Ile Ser Thr Glu Ile Gln Lys Glu Lys Tyr
  1          5          10          15

```



Ile Pro Phe Leu Ile Ser Arg Gly Lys Thr Gln Leu Glu Asp Leu Val  
                   20                  25                  30  
 Lys Tyr Thr Leu Glu Ile Asn Pro Glu Leu Asp Lys Asn Tyr Val Asn  
                   35                  40                  45  
 Thr Val Ala Lys Thr Tyr Ile Asp Glu Ser Leu Ile Glu Gly Val Asn  
                   50                  55                  60  
 Tyr Asp Ile Ala Tyr Ala Gln Met Leu Leu Glu Thr Gly Ala Leu Lys  
                   65                  70                  75                  80  
 Phe Asn Gly Ile Val Ser Lys Glu Gln His Asn Phe Ser Gly Ile Gly  
                   85                  90                  95  
 Ala Thr Asn Asn Leu Thr Lys Gly Asn Ser Phe Ser Asn Ile Thr Glu  
                   100                  105                  110  
 Gly Ile Lys Ala His Ile Gln His Leu Lys Ala Tyr Ala Ser Lys Gln  
                   115                  120                  125  
 Asn Ile Lys Ser Asn Met Val Asp Pro Arg Phe Tyr Leu Val Lys Arg  
                   130                  135                  140  
 Gly Ser Ala Pro Thr Ile Tyr Asp Leu Thr Gly Lys Trp Ala Lys Asp  
                   145                  150                  155                  160  
 Lys Leu Tyr Asp Lys Lys Leu Lys Lys Ile Leu Leu Glu Leu Leu Glu  
                   165                  170                  175  
 Tyr Asn Asn Ala Asn Lys Ser  
                   180

<210> 86  
 <211> 615  
 <212> DNA  
 <213> Homo sapiens

<400> 86  
 atgataaaaa aattcttgct atttgcaatg ctcaacatct ttttaacaaa taaagctcat 60  
 agtaatgaag agataatcga aataagtact gaaatacaaa aggaaaaata tattecccttt 120  
 ttaataagta gaggaaaaac tcaactagaa gaccttgtaa aatatactct agaaataaat 180  
 ccagagcttg acaaaaaacta tgtaaatact gttgctaaaa cctatataga cgaatctttg 240  
 attgaagggg ttaattatga cattgcctat gctcaaagt tactagaaac aggagctcta 300  
 aaattcaatg gaatagtttc aaaagaacaa cacaattttt caggaatagg cgactactaa 360  
 aatcttacaa aaggaaattc tttttccaat attacagaag gaattaaagc tcatattcaa 420  
 catttaaaag cttatgcttc aaaacaaaat atcaaatcaa atatggttga tcctagattt 480  
 taccttggtta aaagaggatc tgctccaaca atatatgatt tgactgggaa atgggcaaaa 540  
 gacaaacttt acgacaaaaa acttaaaaaa atattattag aactattaga atataataat 600  
 gcaaataaaa gctaa 615

<210> 87  
 <211> 552  
 <212> DNA  
 <213> Homo sapiens

<400> 87

```

aatgaagaga taatcgaaat aagtactgaa atacaaaagg aaaaatatat tcccttttta 60
ataagtagag gaaaaactca actagaagac cttgtaaaat atactctaga aataaatcca 120
gagcttgaca aaaactatgt aaatactgtt gctaaaacct atatagacga atctttgatt 180
gaaggggtta attatgacat tgctatgct caaatgttac tagaaacagg agctctaaaa 240
ttcaatggaa tagtttcaaa agaacaacac aatttttcag gaataggcgc tactaataat 300
cttacaaaag gaaattcttt ttccaatatt acagaaggaa ttaaagctca tattcaacat 360
ttaaaagctt atgcttcaaa acaaaatatt aaatcaaata tggttgatcc tagattttac 420
cttggttaaaa gaggatctgc tccaacaata tatgatttga ctgggaaatg ggcaaaagac 480
aaacttttacg acaaaaaact taaaaaaata ttattagaac tattagaata taataatgca 540
aataaaagct aa 552

```

<210> 88

<211> 482

<212> PRT

<213> Homo sapiens

<400> 88

```

Met Lys Leu Phe Arg Arg Asn Val Met Ile Lys Met Pro Ser Ser Phe
  1             5             10             15

```

```

Thr Ile Ile Phe Ser Leu Ile Val Phe Val Thr Ile Leu Thr Tyr Val
      20             25             30

```

```

Ile Pro Ala Gly Lys Phe Asp Lys Glu Phe Lys Gln Met Gly Asp Gly
      35             40             45

```

```

Ser Lys Arg Glu Ile Ile Val Ala Gly Thr Tyr Gln Tyr Val Asp Arg
      50             55             60

```

```

Gly Ser Arg Gly Phe Leu His Pro Ile Met Thr Ile Leu Thr Ala Met
      65             70             75             80

```

```

Ser Lys Gly Met Glu His Ala Val Glu Val Ile Val Phe Val Leu Ile
      85             90             95

```

```

Val Gly Gly Ala Tyr Gly Ile Ile Met Lys Thr Gly Ala Ile Asp Val
     100             105             110

```

```

Gly Ile Tyr Phe Leu Ile Lys Lys Leu Gly His Lys Asp Lys Leu Leu
     115             120             125

```

```

Ile Pro Leu Leu Met Phe Ile Phe Ser Ile Gly Gly Thr Val Thr Gly
     130             135             140

```

```

Met Ser Glu Glu Thr Leu Pro Phe Tyr Phe Val Met Ile Pro Leu Ile
     145             150             155             160

```

```

Val Ala Leu Gly Tyr Asp Ser Leu Val Gly Ala Ala Ile Ile Ala Leu
     165             170             175

```

```

Gly Ala Gly Val Gly Thr Met Ala Ser Thr Val Asn Pro Phe Ala Thr
     180             185             190

```

```

Gly Ile Ala Ser Ala Ile Ala Ser Ile Ser Leu Gln Asp Gly Phe Tyr
     195             200             205

```

```

Phe Arg Ile Val Leu Tyr Phe Val Ser Val Leu Ala Ala Ile Thr Tyr
     210             215             220

```

Val Cys Val Tyr Ala Ser Lys Ile Lys Lys Asp Pro Ser Lys Ser Leu  
225 230 235 240

Val Tyr Ser Gln Lys Asp Glu His Tyr Gln Tyr Phe Val Lys Lys Asp  
245 250 255

Gly Leu Ser Thr Gly Asp Asn Ala Gln Asn Ala Leu Glu Phe Thr Phe  
260 265 270

Ala His Lys Leu Val Leu Leu Leu Phe Gly Phe Met Ile Leu Ile Leu  
275 280 285

Ile Phe Ser Ile Val Asn Leu Gly Trp Trp Met Gln Glu Met Thr Met  
290 295 300

Leu Tyr Leu Gly Val Ala Ile Ile Ser Ala Phe Ile Cys Lys Leu Gly  
305 310 315 320

Glu Thr Glu Met Trp Asp Ala Phe Val Lys Gly Ser Glu Ser Leu Leu  
325 330 335

Thr Ala Ala Leu Val Ile Gly Leu Ala Arg Gly Val Met Ile Val Cys  
340 345 350

Asp Asp Gly Leu Ile Thr Asp Thr Met Leu Asn Ala Ala Thr Asn Phe  
355 360 365

Leu Tyr Asn Leu Pro Arg Pro Leu Phe Ile Ile Leu Asn Glu Ile Ile  
370 375 380

Gln Ile Phe Ile Gly Phe Val Val Pro Ser Ser Ser Gly His Ala Ser  
385 390 395 400

Leu Thr Met Pro Ile Met Ala Pro Leu Ala Asp Phe Leu Ser Ile Pro  
405 410 415

Arg Ala Ser Val Ile Ala Met Gln Thr Ala Ser Gly Leu Ile Asn  
420 425 430

Leu Ile Thr Pro Thr Ser Gly Val Ile Met Ala Val Leu Gly Ile Ser  
435 440 445

Arg Leu Ser Tyr Gly Thr Trp Phe Lys Phe Val Leu Pro Leu Phe Met  
450 455 460

Ile Glu Phe Phe Ile Ser Ile Leu Val Ile Ile Ala Asn Ile Tyr Leu  
465 470 475 480

Ser Phe

<210> 89

<211> 446

<212> PRT

<213> Homo sapiens

<400> 89

Lys Phe Asp Lys Glu Phe Lys Gln Met Gly Asp Gly Ser Lys Arg Glu  
 1 5 10 15  
 Ile Ile Val Ala Gly Thr Tyr Gln Tyr Val Asp Arg Gly Ser Arg Gly  
 20 25 30  
 Phe Leu His Pro Ile Met Thr Ile Leu Thr Ala Met Ser Lys Gly Met  
 35 40 45  
 Glu His Ala Val Glu Val Ile Val Phe Val Leu Ile Val Gly Gly Ala  
 50 55 60  
 Tyr Gly Ile Ile Met Lys Thr Gly Ala Ile Asp Val Gly Ile Tyr Phe  
 65 70 75 80  
 Leu Ile Lys Lys Leu Gly His Lys Asp Lys Leu Leu Ile Pro Leu Leu  
 85 90 95  
 Met Phe Ile Phe Ser Ile Gly Gly Thr Val Thr Gly Met Ser Glu Glu  
 100 105 110  
 Thr Leu Pro Phe Tyr Phe Val Met Ile Pro Leu Ile Val Ala Leu Gly  
 115 120 125  
 Tyr Asp Ser Leu Val Gly Ala Ala Ile Ile Ala Leu Gly Ala Gly Val  
 130 135 140  
 Gly Thr Met Ala Ser Thr Val Asn Pro Phe Ala Thr Gly Ile Ala Ser  
 145 150 155 160  
 Ala Ile Ala Ser Ile Ser Leu Gln Asp Gly Phe Tyr Phe Arg Ile Val  
 165 170 175  
 Leu Tyr Phe Val Ser Val Leu Ala Ala Ile Thr Tyr Val Cys Val Tyr  
 180 185 190  
 Ala Ser Lys Ile Lys Lys Asp Pro Ser Lys Ser Leu Val Tyr Ser Gln  
 195 200 205  
 Lys Asp Glu His Tyr Gln Tyr Phe Val Lys Lys Asp Gly Leu Ser Thr  
 210 215 220  
 Gly Asp Asn Ala Gln Asn Ala Leu Glu Phe Thr Phe Ala His Lys Leu  
 225 230 235 240  
 Val Leu Leu Leu Phe Gly Phe Met Ile Leu Ile Leu Ile Phe Ser Ile  
 245 250 255  
 Val Asn Leu Gly Trp Trp Met Gln Glu Met Thr Met Leu Tyr Leu Gly  
 260 265 270  
 Val Ala Ile Ile Ser Ala Phe Ile Cys Lys Leu Gly Glu Thr Glu Met  
 275 280 285  
 Trp Asp Ala Phe Val Lys Gly Ser Glu Ser Leu Leu Thr Ala Ala Leu  
 290 295 300  
 Val Ile Gly Leu Ala Arg Gly Val Met Ile Val Cys Asp Asp Gly Leu

305                      310                      315                      320  
 Ile Thr Asp Thr Met Leu Asn Ala Ala Thr Asn Phe Leu Tyr Asn Leu  
                                  325                      330                      335  
 Pro Arg Pro Leu Phe Ile Ile Leu Asn Glu Ile Ile Gln Ile Phe Ile  
                                  340                      345                      350  
 Gly Phe Val Val Pro Ser Ser Ser Gly His Ala Ser Leu Thr Met Pro  
                                  355                      360                      365  
 Ile Met Ala Pro Leu Ala Asp Phe Leu Ser Ile Pro Arg Ala Ser Val  
                                  370                      375                      380  
 Val Ile Ala Met Gln Thr Ala Ser Gly Leu Ile Asn Leu Ile Thr Pro  
 385                      390                      395                      400  
 Thr Ser Gly Val Ile Met Ala Val Leu Gly Ile Ser Arg Leu Ser Tyr  
                                  405                      410                      415  
 Gly Thr Trp Phe Lys Phe Val Leu Pro Leu Phe Met Ile Glu Phe Phe  
                                  420                      425                      430  
 Ile Ser Ile Leu Val Ile Ile Ala Asn Ile Tyr Leu Ser Phe  
                                  435                      440                      445

&lt;210&gt; 90

&lt;211&gt; 1449

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 90

```

atgaaattat ttaggagaaa cgttatgatac aaaatgccaa gtagttttac aataatattt 60.
tctttaattg tatttggtac cattttaacg tatgtgattc ctgccggtaa gtttgataaa 120
gaatttaagc aaatgggtga tggatctaaa agggaaataa ttgttgctgg aacttatcaa 180
tatgtagatc gaggtcttag gggattttta catcctatta tgactatttt aaccgcaatg 240
tcaaagggga tggacatgc agttgaagtt attgtttttg ttttaattgt tgggggtgct 300
tatgggatta ttatgaaaac tggagcaata gatgtgggaa tttatttttt aatcaagaag 360
ttggggcaca aagataagtt gcttattcct ttgttaatgt ttattttttc aattgggtga 420
actgtaaccg gaatgagtga agagaccctt cctttttatt ttgttatgat tcccttgata 480
gtagcttttg gttatgatag tcttggttga gcggctatta ttgctttagg agctggagtg 540
ggaactatgg cttctactgt aaatccattt gcgacaggaa ttgcatctgc aatagcttct 600
attagcttgc aggatggatt ttattttaga attgttcttt attttgtatc agtattggct 660
gctataacct atgttttgtt ttatgcgtct aaaattaaaa aggatccctc aaaatcgctt 720
gtgtattctc aaaaagatga acattatcaa tattttgtta aaaaagatgg actttctacc 780
ggagataatg ctcagaatgc tcttgagttt acttttgcct ataaattagt tttactttta 840
tttggattta tgatattgat tttgatattt agcattgtta atcttggttg gtggatgcaa 900
gaaatgacaa tgttgtatct tggagttgct attatatcgg cttttatttg taaattaggt 960
gaaactgaaa tgtgggatgc gtttgtgaaa gggtctgaaa gtctgctaac cgctgctctt 1020
gttattggac ttgctagagg tgttatgata gtatgtgatg atgggttgat tacagatact 1080
atgttaaatg ctgctactaa ttttttatcc aatcttccaa gacctctttt tatcatattg 1140
aatgaaatta ttcaaatatt tataggattt gttgttccat cttcatcagg acatgctagt 1200
ctcactatgc caataatggc tcctcttgcc gattttttgt caattccaag agcttcagtt 1260
gttattgcc a tgcagactgc atctgggctt attaatttga taacacctac cagcggagtt 1320
ataatggctg tattggggat atccagattg agttatggta cgtgggttaa gtttgtttta 1380
ccattattta tgattgagtt ttttatctct atttttagtta ttatagctaa catttattta 1440
agtttttag

```

<210> 91  
 <211> 1341  
 <212> DNA  
 <213> Homo sapiens

<400> 91  
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 ggaacttatc aatatgtaga tcgaggctct aggggatttt tacatcctat tatgactatt 120  
 ttaaccgcaa tgtcaaaggg gatggaacat gcagttgaag ttattgtttt tgttttaatt 180  
 gttgggggtg cttatgggat tattatgaaa actggagcaa tagatgtggg aatttatttt 240  
 ttaatcaaga agttggggca caaagataag ttgcttattc ctttggttaat gtttattttt 300  
 tcaattgggtg gaactgtaac cggaatgagt gaagagaccc ttccttttta ttttgttatg 360  
 attcccttga tagtagcttt gggttatgat agtcttggtg gagcggctat tattgcttta 420  
 ggagctggag tgggaactat ggcttctact gtaaatccat ttgcgacagg aattgcatct 480  
 gcaatagctt ctattagctt gcaggatgga ttttatttta gaattgttct ttattttgta 540  
 tcagttattg ctgctataac ctatgtttgt gtttatgctg ctaaaattaa aaaggatccc 600  
 tcaaaatcgc ttgtgtattc tcaaaaagat gaacattatc aatattttgt taaaaaagat 660  
 ggactttcta ccggagataa tgctcagaat gctcttgagt ttacttttgc tcataaatta 720  
 gttttacttt tatttggtt tatgatattg attttgatat ttagcattgt taatcttggt 780  
 tgggtggatgc aagaaatgac aatgttgtat cttggagttg ctattatata ggcttttatt 840  
 tgtaaaattag gtgaaactga aatgtgggat gcgtttgtga aaggttctga aagtctgcta 900  
 accgctgctc ttgttattgg acttgctaga ggtgttatga tagtatgtga tgatgggttg 960  
 attacagata ctattgttaa tgctgctact aattttttat acaatcttcc aagacccctt 1020  
 tttatcatat tgaatgaaat tattcaaata tttataggat ttgttggtcc atcttcatca 1080  
 ggacatgcta gtctcactat gccaaataat gctcctcttg ccgatttttt gtcaattcca 1140  
 agagcttcag ttgttattgc catgcagact gcattctggg ttattaattt gataacacct 1200  
 accagcggag ttataatggc tgtattgggg atatccagat tgagttatgg tacgtggttt 1260  
 aagtttgttt taccattatt tatgattgag ttttttatct ctattttagt tattatagct 1320  
 aacattttatt taagttttta g 1341

<210> 92  
 <211> 469  
 <212> PRT  
 <213> Homo sapiens

<400> 92  
 Met Lys Tyr Phe Tyr Phe Leu Phe Phe Leu Ile Phe Asn Val Tyr  
 1 5 10 15  
 Ala Gln Asn Val Asn Ser Pro Ala Leu Pro Ser Pro Pro Leu Leu Pro  
 20 25 30  
 Glu Ile Thr Glu Asn Lys Pro Val Glu Arg Glu Asn Ser Ser Lys Gly  
 35 40 45  
 Glu Asn Phe Ser Asn Val Gly Leu Asp Gly Lys Tyr Val Asn Asp Thr  
 50 55 60  
 Ile Leu Tyr Gly Leu Asp Ser Gln Val Thr Ser Ile Ile Lys Ala Leu  
 65 70 75 80  
 Lys Lys Ser Ser Asp Ser Gln Tyr Asn Phe Ser Leu Lys Lys Arg Leu  
 85 90 95  
 Glu Lys Thr Phe Asn Ala Glu Leu Lys Arg Glu Ile Leu Glu Leu Phe  
 100 105 110  
 Ile Ser Leu Lys Tyr Ser Gly Gly Ile Asp Thr Ala Asn Tyr Ile Leu

115	120	125
Glu Asn Tyr Glu Ser Lys Arg Tyr Ser Asn Ala Leu Phe Gly Leu Ala		
130	135	140
Ile Ser Tyr Leu Lys Glu Phe Asp Asp Lys Glu Lys Leu Lys Lys Thr		
145	150	155
Leu Ile Asp Ile Leu Glu Asn Lys Glu Gly Asn Val Val Ser Ile Ala		
	165	170
Ala Tyr Tyr Leu Gly Glu Leu Asn Ser Leu Glu Tyr Ser Lys Asn Met		
	180	185
Met Glu Val Phe Glu Lys Tyr Ser Gly Asn Asp Gly Ala Arg Arg Glu		
	195	200
Ile Leu Ile Ala Leu Gly Lys Met Ser Ala Val Asp Tyr Gln Asp Arg		
	210	215
Ile Tyr Glu Ile Ser Leu Asp Asn Tyr Glu Gly Pro Ser Ile Lys Ala		
	225	230
Ala Ala Ile Glu Ala Leu Ser Tyr Leu Ala Ser Asp Lys Val Thr Glu		
	245	250
Asn Ala Asp Leu Tyr Leu Gln Ser Asn Asn Asn Asn Leu Asn Val Lys		
	260	265
Leu Ala Ile Ile Ala Ser Leu Ser Lys Asp Pro Ser Leu Lys Ser Lys		
	275	280
Glu Ile Leu Gln Gly Phe Leu Arg Asp Ser Asp Asp Asn Ile Arg Phe		
	290	295
Lys Ala Ile Asn Ala Ile Lys Gly His Arg Asp Ser Ser Ala Lys Asp		
	305	310
Ile Leu Ile Tyr Lys Leu Lys Ser Asp Pro Ser Leu Lys Val Arg Glu		
	325	330
Ala Ser Ala Lys Ala Leu Ile Asp Met Asp Leu Gly Asn Ile Glu Ile		
	340	345
Lys Asn Ile Met Phe Asp Phe Lys Ile Asp Asn Asn Phe Lys Ile Ser		
	355	360
Met Phe Ser Tyr Leu Leu Asp Lys Asp Ser Leu Lys Ala Leu Ser Ile		
	370	375
Ala Leu Glu Ile Val Asn Lys Glu Asn Ile Asn Arg Pro Ser Asn Val		
	385	390
Leu Arg Gly Val Ala Ser Met Leu Ala Gly Lys Lys Gly Asn Phe Asp		
	405	410
Asn Phe Tyr Ser Lys Ile Ile Asp Ser Lys Asn Ile Asp Leu Arg His		
	420	425
		430

Leu Ala Leu Lys Gly Ala Val Tyr Asn Lys Ser Ser Ser Leu Ser Asp  
 435 440 445

Lys Leu Lys Lys Ile Lys Ser Glu Thr Asn Ser Glu Tyr Ile Lys Met  
 450 455 460

Leu Leu Lys Asp Tyr  
 465

<210> 93

<211> 445

<212> PRT

<213> Homo sapiens

<400> 93

Leu Pro Ser Pro Pro Leu Leu Pro Glu Ile Thr Glu Asn Lys Pro Val  
 1 5 10 15

Glu Arg Glu Asn Ser Ser Lys Gly Glu Asn Phe Ser Asn Val Gly Leu  
 20 25 30

Asp Gly Lys Tyr Val Asn Asp Thr Ile Leu Tyr Gly Leu Asp Ser Gln  
 35 40 45

Val Thr Ser Ile Ile Lys Ala Leu Lys Lys Ser Ser Asp Ser Gln Tyr  
 50 55 60

Asn Phe Ser Leu Lys Lys Arg Leu Glu Lys Thr Phe Asn Ala Glu Leu  
 65 70 75 80

Lys Arg Glu Ile Leu Glu Leu Phe Ile Ser Leu Lys Tyr Ser Gly Gly  
 85 90 95

Ile Asp Thr Ala Asn Tyr Ile Leu Glu Asn Tyr Glu Ser Lys Arg Tyr  
 100 105 110

Ser Asn Ala Leu Phe Gly Leu Ala Ile Ser Tyr Leu Lys Glu Phe Asp  
 115 120 125

Asp Lys Glu Lys Leu Lys Lys Thr Leu Ile Asp Ile Leu Glu Asn Lys  
 130 135 140

Glu Gly Asn Val Val Ser Ile Ala Ala Tyr Tyr Leu Gly Glu Leu Asn  
 145 150 155 160

Ser Leu Glu Tyr Ser Lys Asn Met Met Glu Val Phe Glu Lys Tyr Ser  
 165 170 175

Gly Asn Asp Gly Ala Arg Arg Glu Ile Leu Ile Ala Leu Gly Lys Met  
 180 185 190

Ser Ala Val Asp Tyr Gln Asp Arg Ile Tyr Glu Ile Ser Leu Asp Asn  
 195 200 205

Tyr Glu Gly Pro Ser Ile Lys Ala Ala Ala Ile Glu Ala Leu Ser Tyr  
 210 215 220



Leu Ala Ser Asp Lys Val Thr Glu Asn Ala Asp Leu Tyr Leu Gln Ser  
 225 230 235 240  
 Asn Asn Asn Asn Leu Asn Val Lys Leu Ala Ile Ile Ala Ser Leu Ser  
 245 250 255  
 Lys Asp Pro Ser Leu Lys Ser Lys Glu Ile Leu Gln Gly Phe Leu Arg  
 260 265 270  
 Asp Ser Asp Asp Asn Ile Arg Phe Lys Ala Ile Asn Ala Ile Lys Gly  
 275 280 285  
 His Arg Asp Ser Ser Ala Lys Asp Ile Leu Ile Tyr Lys Leu Lys Ser  
 290 295 300  
 Asp Pro Ser Leu Lys Val Arg Glu Ala Ser Ala Lys Ala Leu Ile Asp  
 305 310 315 320  
 Met Asp Leu Gly Asn Ile Glu Ile Lys Asn Ile Met Phe Asp Phe Lys  
 325 330 335  
 Ile Asp Asn Asn Phe Lys Ile Ser Met Phe Ser Tyr Leu Leu Asp Lys  
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 Asp Ser Leu Lys Ala Leu Ser Ile Ala Leu Glu Ile Val Asn Lys Glu  
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 Asn Ile Asn Arg Pro Ser Asn Val Leu Arg Gly Val Ala Ser Met Leu  
 370 375 380  
 Ala Gly Lys Lys Gly Asn Phe Asp Asn Phe Tyr Ser Lys Ile Ile Asp  
 385 390 395 400  
 Ser Lys Asn Ile Asp Leu Arg His Leu Ala Leu Lys Gly Ala Val Tyr  
 405 410 415  
 Asn Lys Ser Ser Ser Leu Ser Asp Lys Leu Lys Lys Ile Lys Ser Glu  
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 Thr Asn Ser Glu Tyr Ile Lys Met Leu Leu Lys Asp Tyr  
 435 440 445

&lt;210&gt; 94

&lt;211&gt; 1410

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 94

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 ggagagctta attctcttga gtattctaaa aacatgatgg aagtttttga aaaatattct 600

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tatattaaaa tgcttttaaa agattattga 1410

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&lt;210&gt; 95

&lt;211&gt; 1338

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 95

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attctttatg ggcttgatag tcaagtgaca agcattataa aagctcttaa aaaatcaagc 180
gatagtcaat ataatttttc tcttaaaaaa agacttgaga aaacttttaa tgctgagctt 240
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cttttaaaag attattga 1338

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&lt;210&gt; 96

&lt;211&gt; 506

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 96

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Met Lys Phe Val Leu Asn Asn Leu Phe Lys Gly Cys Leu Ile Cys Phe
  1           5           10           15

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Phe Leu Phe Phe Ser Cys Leu Thr Thr Asp Arg Ser Ile Gln Asp Ser
      20           25           30

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His Ile Ser Asp Ile Val Glu Lys Lys Lys Glu Ala Val Ile Ile Asp

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35					40					45					
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65					70					75					80
Phe	Leu	Lys	Glu	Asn	Asn	Phe	Tyr	Phe	Lys	Lys	Ala	Arg	Glu	Ser	Tyr
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Ala	Lys	Lys	Asn	Ile	Gly	Leu	Thr	Asn	Tyr	Tyr	Leu	Asn	Lys	Ile	Val
			100					105					110		
Thr	Asn	Glu	Asn	Gln	His	Ser	Arg	Glu	Leu	Leu	Ala	Lys	Ala	Asn	Leu
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Leu	Arg	Leu	Ala	Glu	Leu	Lys	Tyr	Leu	Val	Lys	Glu	Lys	Ser	Asp	Ala
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Arg	Glu	Ile	Tyr	Gly	Phe	Leu	Ser	Asn	Lys	Leu	Gly	Val	Ser	His	Leu
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225					230					235					240
Arg	Tyr	Asn	Ile	Lys	Lys	Asn	Asp	Cys	Arg	Val	Tyr	Leu	Lys	Asp	Lys
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Lys	Ser	Ile	Phe	Leu	Asn	Gly	Ile	Arg	Gly	Phe	Ala	Asp	Tyr	Asn	Gly
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Thr	Ile	Tyr	Ile	Gly	Gly	Lys	Asn	Val	Val	Tyr	Tyr	Ile	Asp	Asp	Val
	275						280					285			
Asp	Gly	Asp	Leu	Lys	Gln	Ile	Asn	Val	Pro	Gly	Asn	Ala	Asp	Phe	Ser
	290					295					300				
Asn	Val	Gln	Val	Leu	Leu	Ala	Val	Lys	Asn	Gly	Ile	Phe	Val	Gly	Thr
305					310					315					320
Leu	Asn	Ser	Gly	Leu	Trp	Phe	Tyr	Asp	Leu	Lys	Asn	Trp	Lys	Asn	Ile
				325					330					335	
Pro	Leu	Gly	Ser	Asn	Lys	Ile	Ser	Ser	Leu	Cys	Phe	Asp	Ser	Leu	Lys
			340					345					350		

Asn Leu Leu Leu Val Gly Thr Val Asp Lys Ala Ile Tyr Ser Val Asn  
 355 360 365

Val Asp Asn Leu Lys Lys Ile Glu His Leu Asp Phe Phe Ser Lys Asn  
 370 375 380

Asp Asn Glu Lys Asn Ile Asn Phe Ile Lys Glu Tyr Lys Asp Ser Tyr  
 385 390 395 400

Phe Val Gly Thr Tyr Gly Gly Gly Leu Phe Glu Leu Asn Leu Asn Lys  
 405 410 415

Asn Ser Tyr Lys Lys His Val Ile Ala Asn Asn Ile Asp Val Asn Tyr  
 420 425 430

Phe Met Asp Met Glu Ile Lys Asp Lys Lys Leu Leu Phe Ala Thr Phe  
 435 440 445

Asp His Gly Leu Leu Ile Tyr Asp Ser Glu Asn Asp Asn Trp Asp Tyr  
 450 455 460

Phe Gly Pro Asn Asn Gly Leu Leu Asn Leu Asn Leu Ile Lys Val Ser  
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Arg Phe Glu Asn Tyr Val Ile Leu Gly Thr Ile Asn Asn Gly Leu Val  
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Phe Val Asp Glu Asn Ile Lys Lys Gln Leu  
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<210> 97

<211> 485

<212> PRT

<213> Homo sapiens

<400> 97

Cys Leu Thr Thr Asp Arg Ser Ile Gln Asp Ser His Ile Ser Asp Ile  
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Val Glu Lys Lys Lys Glu Ala Val Ile Ile Asp Asp Asn Asn Val Val  
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Leu Gly Ser Asn Glu Gly Lys Phe Lys Arg Asp Tyr Leu Ile Gly Leu  
 35 40 45

Lys Asp Asn Glu Ser Phe Phe Leu Ser Asp Ala Phe Leu Lys Glu Asn  
 50 55 60

Asn Phe Tyr Phe Lys Lys Ala Arg Glu Ser Tyr Ala Lys Lys Asn Ile  
 65 70 75 80

Gly Leu Thr Asn Tyr Tyr Leu Asn Lys Ile Val Thr Asn Glu Asn Gln  
 85 90 95

His Ser Arg Glu Leu Leu Ala Lys Ala Asn Leu Phe Phe Gly Tyr Val  
 100 105 110

Asn Tyr Glu Asn Gly Phe Tyr Asp Leu Ser Glu Tyr Asn Phe Asp Leu  
 115 120 125  
 Phe Leu Lys Asp Tyr Lys Tyr Ser His Ala Ser Leu Arg Leu Ala Glu  
 130 135 140  
 Leu Lys Tyr Leu Val Lys Glu Lys Ser Asp Ala Ile Ser Ala Phe Lys  
 145 150 155 160  
 Glu Ile Asn Glu Phe Ser Ile Ser Gly Tyr Asp Arg Glu Ile Tyr Gly  
 165 170 175  
 Phe Leu Ser Asn Lys Leu Gly Val Ser His Leu Asn Leu Glu Ser Leu  
 180 185 190  
 Gly Phe Leu Asp Asn Ser Val Phe Asp Thr Phe Val Phe Asn Asp Asn  
 195 200 205  
 Ile Phe Val Thr Asn Ile Leu Gly Gly Leu Leu Arg Tyr Asn Ile Lys  
 210 215 220  
 Lys Asn Asp Cys Arg Val Tyr Leu Lys Asp Lys Lys Ser Ile Phe Leu  
 225 230 235 240  
 Asn Gly Ile Arg Gly Phe Ala Asp Tyr Asn Gly Thr Ile Tyr Ile Gly  
 245 250 255  
 Gly Lys Asn Val Val Tyr Tyr Ile Asp Asp Val Asp Gly Asp Leu Lys  
 260 265 270  
 Gln Ile Asn Val Pro Gly Asn Ala Asp Phe Ser Asn Val Gln Val Leu  
 275 280 285  
 Leu Ala Val Lys Asn Gly Ile Phe Val Gly Thr Leu Asn Ser Gly Leu  
 290 295 300  
 Trp Phe Tyr Asp Leu Lys Asn Trp Lys Asn Ile Pro Leu Gly Ser Asn  
 305 310 315 320  
 Lys Ile Ser Ser Leu Cys Phe Asp Ser Leu Lys Asn Leu Leu Leu Val  
 325 330 335  
 Gly Thr Val Asp Lys Ala Ile Tyr Ser Val Asn Val Asp Asn Leu Lys  
 340 345 350  
 Lys Ile Glu His Leu Asp Phe Phe Ser Lys Asn Asp Asn Glu Lys Asn  
 355 360 365  
 Ile Asn Phe Ile Lys Glu Tyr Lys Asp Ser Tyr Phe Val Gly Thr Tyr  
 370 375 380  
 Gly Gly Gly Leu Phe Glu Leu Asn Leu Asn Lys Asn Ser Tyr Lys Lys  
 385 390 395 400  
 His Val Ile Ala Asn Asn Ile Asp Val Asn Tyr Phe Met Asp Met Glu  
 405 410 415  
 Ile Lys Asp Lys Lys Leu Leu Phe Ala Thr Phe Asp His Gly Leu Leu

420                      425                      430  
 Ile Tyr Asp Ser Glu Asn Asp Asn Trp Asp Tyr Phe Gly Pro Asn Asn  
       435                      440                      445  
 Gly Leu Leu Asn Leu Asn Leu Ile Lys Val Ser Arg Phe Glu Asn Tyr  
       450                      455                      460  
 Val Ile Leu Gly Thr Ile Asn Asn Gly Leu Val Phe Val Asp Glu Asn  
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 Ile Lys Lys Gln Leu  
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<210> 98  
 <211> 1521  
 <212> DNA  
 <213> Homo sapiens

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 aaaaaagaag cagtcattat tgatgataat aatgttggtc ttgggagtaa tgagggtaaa 180  
 tttaaaagag actatttgat aggattaaaa gataatgaat ctttttttct tagtgatgct 240  
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 attggcctga caaattatta tttgaataaa atagtaacta atgagaatca gcacagcaga 360  
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 aataaacttg gagtaagtca tttaaactta gagtcttttag gatttcttga caacagcgtt 660  
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 aataaaattt cttcactctg ctttgatagt ttaaaaaatt tattattagt tggaacagtt 1080  
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 aaaaagctat tgtttgcaac ctttgatcat gggttattga tttatgattc tgaaaatgac 1380  
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<210> 99  
 <211> 1458  
 <212> DNA  
 <213> Homo sapiens

<400> 99  
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 aaaagagact atttgatagg attaaaagat aatgaatctt tttttcttag tgatgctttt 180  
 ttaaaagaaa ataattttta ttttaaaaaa gccagggaaa gttatgctaa aaaaaatatt 240  
 ggcttgacaa attattattt gaataaaata gtaactaatg agaatacagc cagcagagaa 300

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<210> 100

<211> 207

<212> PRT

<213> Homo sapiens

<400> 100

Met His Ile Phe Lys Asn Val Pro Phe Gln Ile Asn Leu Ile Leu Phe  
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Leu Leu Val Ser Val Ala Lys Ile Asn Ala Ser Ser Lys Phe Tyr Tyr  
20 25 30

Ala Glu Gln Trp Tyr Val Ile Phe Asn Ser Gln Met Lys Lys Lys Pro  
35 40 45

Glu Asn Tyr Lys Lys Asn Ile Phe Phe Leu Gln Lys Ala Leu Lys Tyr  
50 55 60

Pro Phe Gly Asn Pro Lys Tyr Ser Leu Thr Lys Ile Glu Thr Lys Glu  
65 70 75 80

Gln Trp Glu Lys Tyr Lys Leu Leu Phe Lys Met His Val Asn Leu Leu  
85 90 95

Leu Val Arg Gln Asn Leu His Leu Gly Asp Leu Phe Asp Thr Arg Asn  
100 105 110

Leu Tyr Phe Phe Lys Thr Pro Glu Lys Asp Gly Ile Ile Ser Asn Leu  
115 120 125

Glu Lys Ser Lys Lys Leu Tyr Lys Leu Ala Ile Asn Tyr Tyr Ser Glu  
130 135 140

Ala Leu Lys Tyr His Lys Lys Leu Glu Asn Tyr Thr Thr Val Lys Leu  
145 150 155 160

Glu Asn Asp Gly Ile Thr Asn Trp Glu Asp Glu Tyr His Lys Ile Ser

165 170 175  
 Leu Lys Glu Leu Asn Tyr Tyr Asp Ile Ile Lys Lys Glu Leu Leu Arg  
           180                  185                  190

Ile Asp Glu Thr Lys Ala Phe Phe Glu Gln Gly Pro Asn Tyr Tyr  
           195                  200                  205

<210> 101  
 <211> 185  
 <212> PRT  
 <213> Homo sapiens

<400> 101  
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Ile Phe Asn Ser Gln Met Lys Lys Lys Pro Glu Asn Tyr Lys Lys Asn  
           20                  25                  30

Ile Phe Phe Leu Gln Lys Ala Leu Lys Tyr Pro Phe Gly Asn Pro Lys  
           35                  40                  45

Tyr Ser Leu Thr Lys Ile Glu Thr Lys Glu Gln Trp Glu Lys Tyr Lys  
           50                  55                  60

Leu Leu Phe Lys Met His Val Asn Leu Leu Leu Val Arg Gln Asn Leu  
       65                  70                  75                  80

His Leu Gly Asp Leu Phe Asp Thr Arg Asn Leu Tyr Phe Phe Lys Thr  
           85                  90                  95

Pro Glu Lys Asp Gly Ile Ile Ser Asn Leu Glu Lys Ser Lys Lys Leu  
           100                  105                  110

Tyr Lys Leu Ala Ile Asn Tyr Tyr Ser Glu Ala Leu Lys Tyr His Lys  
           115                  120                  125

Lys Leu Glu Asn Tyr Thr Thr Val Lys Leu Glu Asn Asp Gly Ile Thr  
           130                  135                  140

Asn Trp Glu Asp Glu Tyr His Lys Ile Ser Leu Lys Glu Leu Asn Tyr  
       145                  150                  155                  160

Tyr Asp Ile Ile Lys Lys Glu Leu Leu Arg Ile Asp Glu Thr Lys Ala  
           165                  170                  175

Phe Phe Glu Gln Gly Pro Asn Tyr Tyr  
           180                  185

<210> 102  
 <211> 624  
 <212> DNA  
 <213> Homo sapiens

<400> 102  
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 gttgcaaaga taaatgcata gtccaaattt tattacgcag aacaatggta tgtaattttt 120



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aattctcaaa tgaaaaaaaa acctgaaaac tataaaaaaa atatattttt ttttcaaaaa 180
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aatttacatt taggagattt attcgacaca agaaatttat attttttcaa aactccagaa 360
aaagatggaa ttatttccaa tctagaaaaa tcaaaaaaat tatataaaact agctattaat 420
tactacagcg aagcactaaa ataccacaaa aaacttgaaa attacacaaac tgttaaacta 480
gaaaacgatg gaataacaaa ctgggaagat gaatatcata aaatttctct taaagagctt 540
aattactatg acattattaa aaaagaacta ctaagaattg acgaaactaa agcatttttt 600
gaacaagggc caaactatta ttaa                                     .624

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<210> 103

<211> 185

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (3)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (19)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (28)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (32)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (46)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (72)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (79)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (90)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (105)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (118)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (132)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (140)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (145)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (159)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (183)

<223> n equals a,t,g, or c

<400> 103

kinasskfyy aeqwyvifns qmkkkpenyk kniffllqkal kypfgnkpys ltkietkeqw 60  
 ekyklifkmh vnlllvrgnl hlgdlfdtrn lyffktpek d giisnleksk klyklainyy 120  
 sealkyhhkl enyttvkl enydgitnwedey hkiskelny ydiikkellr idetkaffeq 180  
 gpnyy 185

<210> 104

<211> 538

<212> PRT

<213> Homo sapiens

<400> 104

Met Lys Asn Ile Asn Arg Leu Ile Leu Leu Ile Leu Thr Thr His Thr  
 1 5 10 15

Leu Leu Phe Ser Cys Ala Leu Ile Ala Asp Asn Lys Ser Lys Asn Leu  
 20 25 30

Ser Thr Ser Glu Ile Ile Leu Thr Gln Lys Thr Leu Leu Glu Ser Ser  
 35 40 45

Leu Ile Lys Asn Pro Ser Asn Val Glu Tyr Arg Ile Pro Ile Ser Ser  
 50 55 60

Ile Gln Glu Ile Leu Asn Asn Asn Asn Asp Ser Phe Leu Ile Lys Lys  
 65 70 75 80

Thr	Ala	Ala	Lys	Ile	Lys	Ile	Ser	Pro	Gln	Lys	Leu	Glu	Glu	Ile	Lys	85	90	95
Asn	Tyr	Leu	Asn	Ala	Tyr	Lys	Asn	Tyr	Leu	Asn	Asn	Glu	Thr	Glu	Trp	100	105	110
Ile	Lys	Phe	Ile	Asp	Gln	Ser	Ser	Val	Asn	Gly	Asn	Leu	Thr	Ile	Lys	115	120	125
Ile	Asp	Thr	Ala	Phe	Glu	Lys	Lys	Thr	Asn	Phe	Asn	His	Thr	Asn	Ser	130	135	140
Asp	Asn	Glu	Asn	Leu	Thr	Glu	Leu	Ile	Glu	Leu	Gln	Met	His	Leu	Glu	145	150	155
Lys	Glu	Ile	Leu	Asn	Leu	Ile	Glu	Gln	Thr	Phe	His	Asp	Lys	Asn	Leu	165	170	175
Gly	Tyr	Ile	Gln	Leu	Ser	His	Ile	Asn	Ser	Phe	Phe	Pro	Gln	Glu	Asn	180	185	190
Ile	Asn	Ser	Ile	Thr	Lys	Glu	Ile	Ile	Asp	Gly	Lys	Glu	Tyr	Ile	Ala	195	200	205
Pro	His	Ile	Ile	Ala	Asn	Gln	Leu	Leu	Lys	Ile	Lys	Asp	Lys	Lys	Tyr	210	215	220
Phe	Glu	Gln	Phe	Met	His	Phe	Leu	Lys	Val	Glu	Asn	Ser	Lys	Ile	Lys	225	230	235
Thr	Ile	Ile	Glu	Lys	Gln	Lys	Ile	Ser	Asp	Leu	His	Asn	Glu	Leu	Tyr	245	250	255
Tyr	Ser	Lys	Gln	Ser	Pro	Pro	Arg	Arg	Arg	Lys	Arg	Ser	Thr	Ala	Asp	260	265	270
Ser	Asp	Asn	Asn	Asn	Lys	Tyr	Asp	Ile	Ile	Pro	Lys	Ile	Ile	Asp	Pro	275	280	285
Asn	Thr	Gly	Ile	Glu	Ile	Thr	Pro	Lys	Asn	Leu	Arg	Ser	Ile	Leu	Ser	290	295	300
Asn	Gly	Asp	Ile	Ile	Leu	Ile	Lys	Pro	Lys	Ile	Asp	Trp	Thr	Glu	Phe	305	310	315
Phe	Tyr	Phe	Trp	Gln	His	Val	Gly	Ile	Phe	Asp	Glu	Glu	Lys	Tyr	Glu	325	330	335
Ala	Thr	Lys	Lys	Ile	Ala	Phe	Asn	Gly	Ile	Asp	Ser	Phe	Asp	Ile	Lys	340	345	350
Ser	Ile	Ile	Thr	Ser	Asn	Gln	Ile	Lys	Phe	Asp	Thr	Ala	Ser	Thr	Gln	355	360	365
Gly	Ser	Gly	Tyr	Glu	Lys	Leu	Ser	Thr	Tyr	Val	Gln	Ser	Arg	Ile	Leu	370	375	380

Lys Ile Phe Ser Pro Ile Thr Asp Ile Arg Thr Ile Gln Lys Ala Ile  
385 390 395 400

Asn Phe Gly Arg Ser Arg Tyr Ile Asp Asn Asn Phe Gly Tyr Met Val  
405 410 415

Pro Leu Ile Ser Ser Asn Leu Trp Thr Asp Ser Phe Asn Leu Glu Glu  
420 425 430

Ile His Asn Lys Thr Tyr Cys Ser Leu Met Val Asp Arg Ile Tyr Lys  
435 440 445

Ile Ala Gly Leu Asn Val Ser Arg Asn Tyr Glu Ile Ser Gly Ile Ile  
450 455 460

Thr Pro Gly Glu Ile Asn Ala Ala Ala Tyr Asn Phe Tyr Met Ser Tyr  
465 470 475 480

Thr Ile Ala Gly Ile Leu Pro Ser Val Leu Pro Lys Arg Leu Ile Lys  
485 490 495

Pro Thr Leu Lys Glu Lys Phe Ile Gly Tyr Asn Lys Glu Ile Val Asp  
500 505 510

Ala Ile Glu Leu Lys Lys Ser Lys Glu Lys Ile Phe Gly Arg Ala Cys  
515 520 525

Asn Ile Thr Asn Leu Trp Cys Ser Gly Ser  
530 535

<210> 105

<211> 518

<212> PRT

<213> Homo sapiens

<400> 105

Cys Ala Leu Ile Ala Asp Asn Lys Ser Lys Asn Leu Ser Thr Ser Glu  
1 5 10 15

Ile Ile Leu Thr Gln Lys Thr Leu Leu Glu Ser Ser Leu Ile Lys Asn  
20 25 30

Pro Ser Asn Val Glu Tyr Arg Ile Pro Ile Ser Ser Ile Gln Glu Ile  
35 40 45

Leu Asn Asn Asn Asn Asp Ser Phe Leu Ile Lys Lys Thr Ala Ala Lys  
50 55 60

Ile Lys Ile Ser Pro Gln Lys Leu Glu Glu Ile Lys Asn Tyr Leu Asn  
65 70 75 80

Ala Tyr Lys Asn Tyr Leu Asn Asn Glu Thr Glu Trp Ile Lys Phe Ile  
85 90 95

Asp Gln Ser Ser Val Asn Gly Asn Leu Thr Ile Lys Ile Asp Thr Ala  
100 105 110

Phe Glu Lys Lys Thr Asn Phe Asn His Thr Asn Ser Asp Asn Glu Asn

115	120	125
Leu Thr Glu Leu Ile Glu 130	Leu Gln Met His 135	Leu Glu Lys Glu Ile Leu 140
Asn Leu Ile Glu Gln Thr 145	Phe His Asp Lys 150	Asn Leu Gly Tyr Ile Gln 155 160
Leu Ser His Ile Asn Ser 165	Phe Phe Pro Gln Glu 170	Asn Ile Asn Ser Ile 175
Thr Lys Glu Ile Ile Asp 180	Gly Lys Glu Tyr Ile 185	Ala Pro His Ile Ile 190
Ala Asn Gln Leu Leu Lys 195	Ile Lys Asp Lys Lys 200	Tyr Phe Glu Gln Phe 205
Met His Phe Leu Lys Val 210	Glu Asn Ser Lys Ile 215	Lys Thr Ile Ile Glu 220
Lys Gln Lys Ile Ser Asp 225	Leu His Asn Glu Leu 230	Tyr Tyr Ser Lys Gln 235 240
Ser Pro Pro Arg Arg Arg 245	Lys Arg Ser Thr Ala 250	Asp Ser Asp Asn Asn 255
Asn Lys Tyr Asp Ile Ile 260	Pro Lys Ile Ile Asp 265	Pro Asn Thr Gly Ile 270
Glu Ile Thr Pro Lys Asn 275	Leu Arg Ser Ile Leu 280	Ser Asn Gly Asp Ile 285
Ile Leu Ile Lys Pro Lys 290	Ile Asp Trp Thr Glu 295	Phe Phe Tyr Phe Trp 300
Gln His Val Gly Ile Phe 305	Asp Glu Glu Lys Tyr 310	Glu Ala Thr Lys Lys 315 320
Ile Ala Phe Asn Gly Ile 325	Asp Ser Phe Asp Ile 330	Lys Ser Ile Ile Thr 335
Ser Asn Gln Ile Lys Phe 340	Asp Thr Ala Ser Thr 345	Gln Gly Ser Gly Tyr 350
Glu Lys Leu Ser Thr Tyr 355	Val Gln Ser Arg Ile 360	Leu Lys Ile Phe Ser 365
Pro Ile Thr Asp Ile Arg 370	Thr Ile Gln Lys Ala 375	Ile Asn Phe Gly Arg 380
Ser Arg Tyr Ile Asp Asn 385	Asn Phe Gly Tyr Met 390	Val Pro Leu Ile Ser 395 400
Ser Asn Leu Trp Thr Asp 405	Ser Phe Asn Leu Glu 410	Glu Ile His Asn Lys 415
Thr Tyr Cys Ser Leu Met 420	Val Asp Arg Ile Tyr 425	Lys Ile Ala Gly Leu 430

Asn Val Ser Arg Asn Tyr Glu Ile Ser Gly Ile Ile Thr Pro Gly Glu  
 435 440 445  
 Ile Asn Ala Ala Ala Tyr Asn Phe Tyr Met Ser Tyr Thr Ile Ala Gly  
 450 455 460  
 Ile Leu Pro Ser Val Leu Pro Lys Arg Leu Ile Lys Pro Thr Leu Lys  
 465 470 475 480  
 Glu Lys Phe Ile Gly Tyr Asn Lys Glu Ile Val Asp Ala Ile Glu Leu  
 485 490 495  
 Lys Lys Ser Lys Glu Lys Ile Phe Gly Arg Ala Cys Asn Ile Thr Asn  
 500 505 510  
 Leu Trp Cys Ser Gly Ser  
 515

<210> 106  
 <211> 1617  
 <212> DNA  
 <213> Homo sapiens

<400> 106  
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 tgtgccttaa ttgcagataa taagtcaaaa aatttaagca catcagaaat catattaaca 120  
 caaaaaacac tactagaaag ctctttaata aaaaatcctt ctaatgtaga atatcgaata 180  
 ccaatatcca gtatccaaga aattttaaac aataacaatg attctttttt aataaaaaaa 240  
 acagcagcaa aaatcaaaat aagccctcaa aaacttgaag aaataaaaaa ctatctaaat 300  
 gcttataaaa attatctaaa taatgaaaca gaatggataa agtttataga tcaaagtagc 360  
 gtcaatggaa atttaacaat taaaattgat actgcttttg aaaaaaaaac aaattttaat 420  
 catacaaatt cagataatga aaatttaaca gaactaatag aactacaaat gcatctggaa 480  
 aaagaaattt taaacttaat tgagcaaaca ttctatgata aaaatttagg atatatacaa 540  
 ttaagtcaca tcaactcatt ctttctcaa gaaaatataa actcaataac aaaagaaata 600  
 atagatggaa aagaatatat tgcaccgcac ataatagcaa atcaattatt aaaaataaaa 660  
 gataaaaaat attttgaaca atttatgcac tttttaaaag ttgaaaacag caaaataaaa 720  
 acaataattg aaaaacaaaa aatttcagat cttcacaatg aactgtatta ttcaaaacaa 780  
 tccccgccca gaagaagaaa aaggtcaact gccgattccg ataataacaa taaatcagat 840  
 ataataccaa aaataataga cccaaatata ggcattgaaa taactcctaa aaatttaaga 900  
 tctattttat caaatggcga cataatacta ataaaaccaa aaatagattg gacagaattt 960  
 ttttattttt ggcaacatgt gggaatattt gatgaagaaa aatatgaagc cactaaaaaa 1020  
 attgcattca atggaattga tagctttgat ataaaatcaa taattacaag caatcaaattc 1080  
 aaattcgata cagcatctac tcaaggttca ggatacgaaa agctttcaac atacgtacaa 1140  
 tcaagaatat taaaaatatt ctaccaata acagacataa gaacaattca aaaagctatt 1200  
 aattttggaa gaagtagata cattgacaat aactttggat atatgggtcc attaatatcc 1260  
 tctaatttat ggacagattc attcaatcct gaagaaattc acaacaaaac ctattgtctc 1320  
 ttaatggttg atagaatata taaaatagca ggacttaatg tatcaagaaa ttacgaaatt 1380  
 tcgggaataa ttactcctgg agaaataaat gcagcagctt acaattttta catgtcttat 1440  
 acgattgcag gaatacttcc aagcgtgctt ccaaaaaggc tcattaaacc aacattaaaa 1500  
 gaaaaattca ttggttacia taaagaaata gtagatgcaa tagaattaaa aaaatcgaaa 1560  
 gaaaaaattt ttgggagagc ttgcaacatt acaaatctct ggtgctcagg aagtttaa 1617

<210> 107  
 <211> 1557  
 <212> DNA  
 <213> Homo sapiens

&lt;400&gt; 107

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tgtgccttaa ttgcagataa taagtcaaaa aattttaagca catcagaaat catattaaca 60
caaaaaaacac tactagaaaag ctctttaata aaaaatcctt ctaatgtaga atatcgaata 120
ccaatatcca gtatccaaga aattttaaac aataacaatg attctttttt aataaaaaaa 180
acagcagcaa aaatcaaaaat aagccctcaa aaacttgaag aaataaaaaa ctatctaaat 240
gcttataaaa attatctaaa taatgaaaca gaatggataa agttttataga tcaaagtagc 300
gtcaatggaa atttaacaat taaaattgat actgcttttg aaaaaaaaac aaattttaat 360
catacaaaatt cagataatga aaatttaaca gaactaatag aactacaaat gcatctggaa 420
aaagaaattt taaacttaat tgagcaaaaca tttcatgata aaaatttagg atatatacaa 480
ttaagtcaca tcaactcatt ctttcctcaa gaaaatataa actcaataac aaaagaaaata 540
atagatggaa aagaatatat tgcaccgcac ataatagcaa atcaattatt aaaaataaaa 600
gataaaaaat attttgaaca atttatgcac tttttaaaag ttgaaaacag caaaataaaa 660
acaataattg aaaaacaaaa aatttcagat cttcacaaatg aactgtatta ttcaaaacaa 720
tccccgccca gaagaagaaa aaggtcaact gccgattccg ataataacaa taaatacgat 780
ataataccaa aaataataga cccaaataca ggcattgaaa taactcctaa aaatttaaga 840
tctatttttat caaatggcga cataatacta ataaaaccaa aaatagattg gacagaattt 900
ttttattttt ggcaacatgt gggaatatat gatgaagaaa aatatgaagc cactaaaaaa 960
attgcattca atggaattga tagctttgat ataaaatcaa taattacaag caatcaaatac 1020
aaattcgata cagcatctac tcaaggttca ggatacgaaa agctttcaac atacgtacaa 1080
tcaagaatat taaaaatatt ctcaccaata acagacataa gaacaattca aaaagctatt 1140
aattttggaa gaagtagata cattgacaat aactttggat atatgggtcc attaatatcc 1200
tctaatttat ggacagattc attcaatctt gaagaaattc acaacaaaac ctattgtctc 1260
ttaatgggtg atagaatata taaaatagca ggacttaatg tatcaagaaa ttacgaaatt 1320
tcgggaataa ttactcctgg agaaataaat gcagcagctt acaattttta catgtcttat 1380
acgattgcag gaatacttcc aagcgtgctt ccaaaaaggc tcattaaacc aacattaaaa 1440
gaaaaattca ttggttacaa taaagaaata gtagatgcaa tagaattaaa aaaatcgaaa 1500
gaaaaaattt ttgggagagc ttgcaacatt acaaatctct ggtgctcagg aagttaa 1557

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&lt;210&gt; 108

&lt;211&gt; 186

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 108

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Met Thr Arg Val Phe Ser Lys Phe Phe Leu Phe Phe Cys Phe Ser Met
  1             5             10             15

```

```

Leu Leu Phe Ala Asn Ser Glu Asp Ser Asn Glu Lys Asp Ile Val Ser
      20             25             30

```

```

Lys Asp Glu Asn Pro Val Phe Glu Asn Glu Val Leu Gly Tyr Trp Val
      35             40             45

```

```

Gly Tyr Asn Asp Val Ser Asn Ile Lys Asn Ser Ile Ile Tyr Ile Tyr
      50             55             60

```

```

Lys Tyr Asn Gly Glu Val Tyr Gly Arg Ile Leu Thr Ile Ile Lys Asp
      65             70             75             80

```

```

Gly Lys Lys Tyr Asp Ala Lys Asn Pro Ser Gly Asp Thr Val Val Gly
      85             90             95

```

```

Phe Glu Asn Leu Ala Ile Glu Gly Leu Asp Phe Met Trp Gly Leu Lys
      100            105            110

```

```

Tyr Ser Ser Ser Ser Lys Lys Trp Asp Arg Gly Lys Ile Ile Asp Pro
      115            120            125

```

Lys Asn Gly Lys Ile Tyr Asn Ser Glu Met Arg Val Asp Ser Lys Thr  
 130 135 140

Gly Asn Leu Ile Thr Lys Gly Lys Val Trp Ile Phe Gly Arg Ser Lys  
 145 150 155 160

Ile Trp Thr Arg Ala Lys Asp Asp Glu Ile Pro Lys Leu Asp Leu His  
 165 170 175

Asn Leu Val Pro Ala Pro Pro Val Lys Lys  
 180 185

<210> 109  
 <211> 164  
 <212> PRT  
 <213> Homo sapiens

<400> 109  
 Glu Asp Ser Asn Glu Lys Asp Ile Val Ser Lys Asp Glu Asn Pro Val  
 1 5 10 15

Phe Glu Asn Glu Val Leu Gly Tyr Trp Val Gly Tyr Asn Asp Val Ser  
 20 25 30

Asn Ile Lys Asn Ser Ile Ile Tyr Ile Tyr Lys Tyr Asn Gly Glu Val  
 35 40 45

Tyr Gly Arg Ile Leu Thr Ile Ile Lys Asp Gly Lys Lys Tyr Asp Ala  
 50 55 60

Lys Asn Pro Ser Gly Asp Thr Val Val Gly Phe Glu Asn Leu Ala Ile  
 65 70 75 80

Glu Gly Leu Asp Phe Met Trp Gly Leu Lys Tyr Ser Ser Ser Ser Lys  
 85 90 95

Lys Trp Asp Arg Gly Lys Ile Ile Asp Pro Lys Asn Gly Lys Ile Tyr  
 100 105 110

Asn Ser Glu Met Arg Val Asp Ser Lys Thr Gly Asn Leu Ile Thr Lys  
 115 120 125

Gly Lys Val Trp Ile Phe Gly Arg Ser Lys Ile Trp Thr Arg Ala Lys  
 130 135 140

Asp Asp Glu Ile Pro Lys Leu Asp Leu His Asn Leu Val Pro Ala Pro  
 145 150 155 160

Pro Val Lys Lys

<210> 110  
 <211> 561  
 <212> DNA  
 <213> Homo sapiens

<400> 110  
 atgactagag ttttttcaaa gttttttctt tttttttggt tttcaatgct tttatttgca 60



aattcagaag attcaaatga aaaggacatt gtttagcaagg atgaaaaccc tgtttttgaa 120  
aatgaagttt taggatattg gggttggtat aatgatgtaa gtaacataaa gaattctatt 180  
atctatattt ataaatataa tggggaagtt tatggccgaa ttttaactat aataaaagat 240  
ggcaaaaagt atgatgctaa aaatccttca ggagatactg tagttgggtt tgaaaatctt 300  
gcaatagagg gtcttgattt tatgtggggt cttaagtatt cttcttcttc taaaaagtgg 360  
gataggggca aaataataga tcctaaaaac ggtaaaattt ataattctga gatgcgtggt 420  
gatagtaaaa ccggaaatct tattaccaag gggaaagttt ggatttttgg tagaagtaaa 480  
atttgacaaa gagctaaaga tgatgaaata ccaaaattag atttgcataa tcttggtcca 540  
gcgccccctg tgaaaaaata a 561

<210> 111

<211> 495

<212> DNA

<213> Homo sapiens

<400> 111

gaagattcaa atgaaaagga cattgttagc aaggatgaaa accctgtttt tgaaaatgaa 60  
gttttaggat attgggttgg ttataatgat gtaagtaaca taaagaattc tattatctat 120  
atttataaat ataattggga agtttatggc cgaattttta ctataataaa agatggcaaa 180  
aagtatgatg ctaaaaatcc ttcaggagat actgtagttg gggttgaaaa tcttgcaata 240  
gagggctcttg attttatgtg gggctcttaag tattcttctt cttctaaaaa gtgggatagg 300  
ggcaaaaata tagatcctaa aaacggtaaa atttataatt ctgagatgcg tgttgatagt 360  
aaaaccggaa atcttattac caaggggaaa gtttgattt ttggtagaag taaaatttgg 420  
acaagagcta aagatgatga aataccaaaa ttagatttgc ataattctgt tccagcgccc 480  
cctgtgaaaa aataa 495

<210> 112

<211> 335

<212> PRT

<213> Homo sapiens

<400> 112

Met Asn Lys Leu Met Leu Met Leu Ile Thr Phe Ala Thr Ser Leu Leu  
1 5 10 15  
Ala Gln Thr Asn Lys Ala Ser Thr Gly Leu Lys Thr Asp Gln Ser Phe  
20 25 30  
Asn Asn Ser Leu Ser Glu Ser Val Lys Leu Lys Glu Ile Ala Asp Ile  
35 40 45  
Tyr Pro Thr Asn Thr Asn Phe Leu Thr Gly Ile Gly Ile Val Ala Gly  
50 55 60  
Leu Ala Gly Lys Gly Asp Ser Ile Lys Gln Lys Asp Leu Ile Ile Lys  
65 70 75 80  
Ile Leu Glu Glu Asn Asn Ile Ile Asn Glu Ile Gly Ser Asn Asn Ile  
85 90 95  
Glu Ser Lys Asn Ile Ala Leu Val Asn Val Ser Leu Gln Val Lys Gly  
100 105 110  
Asn Thr Ile Lys Gly Ser Lys His Lys Ala Cys Val Ala Ser Ile Leu  
115 120 125  
Asp Ser Lys Asp Leu Thr Asn Gly Ile Leu Leu Lys Thr Asn Leu Lys  
130 135 140

Asn Lys Glu Gly Glu Ile Ile Ala Ile Ala Ser Gly Ile Thr Gln Pro  
145 150 155 160

Asn Asn Lys Leu Lys Gly Ser Gly Tyr Thr Ile Asp Ser Val Ile Ile  
165 170 175

Asn Glu Asn Gln Asn Ile Asn His Ser Tyr Asn Ile Ile Leu Lys Lys  
180 185 190

Gly Asn Tyr Thr Leu Ile Asn Arg Ile His Lys Ile Leu Thr Ser Lys  
195 200 205

Lys Ile Asn Asn Lys Ile Lys Ser Asp Ser Thr Ile Glu Ile Glu Ala  
210 215 220

Lys Asn Ile Ser Leu Leu Glu Glu Ile Glu Asn Ile Lys Ile Glu Thr  
225 230 235 240

Asn Pro Lys Ile Leu Ile Asp Lys Lys Asn Gly Ile Ile Leu Ala Ser  
245 250 255

Glu Asn Ala Lys Ile Gly Thr Phe Thr Phe Ser Ile Glu Lys Asp Asn  
260 265 270

Gln Asn Ile Phe Leu Ser Lys Asn Asn Lys Thr Thr Ile Gln Val Asn  
275 280 285

Ser Met Lys Leu Asn Glu Phe Ile Leu Lys Asn Ser Asn Asn Leu Ser  
290 295 300

Asn Lys Glu Leu Ile Gln Ile Ile Gln Ala Ala Gln Lys Ile Asn Lys  
305 310 315 320

Leu Asn Gly Glu Leu Ile Leu Glu Glu Ile Asp Gly Asn Gln Asn  
325 330 335

<210> 113

<211> 310

<212> PRT

<213> Homo sapiens

<400> 113

Leu Lys Thr Asp Gln Ser Phe Asn Asn Ser Leu Ser Glu Ser Val Lys  
1 5 10 15

Leu Lys Glu Ile Ala Asp Ile Tyr Pro Thr Asn Thr Asn Phe Leu Thr  
20 25 30

Gly Ile Gly Ile Val Ala Gly Leu Ala Gly Lys Gly Asp Ser Ile Lys  
35 40 45

Gln Lys Asp Leu Ile Ile Lys Ile Leu Glu Glu Asn Asn Ile Ile Asn  
50 55 60

Glu Ile Gly Ser Asn Asn Ile Glu Ser Lys Asn Ile Ala Leu Val Asn  
65 70 75 80

Val Ser Leu Gln Val Lys Gly Asn Thr Ile Lys Gly Ser Lys His Lys  
 85 90 95  
 Ala Cys Val Ala Ser Ile Leu Asp Ser Lys Asp Leu Thr Asn Gly Ile  
 100 105 110  
 Leu Leu Lys Thr Asn Leu Lys Asn Lys Glu Gly Glu Ile Ile Ala Ile  
 115 120 125  
 Ala Ser Gly Ile Thr Gln Pro Asn Asn Lys Leu Lys Gly Ser Gly Tyr  
 130 135 140  
 Thr Ile Asp Ser Val Ile Ile Asn Glu Asn Gln Asn Ile Asn His Ser  
 145 150 155 160  
 Tyr Asn Ile Ile Leu Lys Lys Gly Asn Tyr Thr Leu Ile Asn Arg Ile  
 165 170 175  
 His Lys Ile Leu Thr Ser Lys Lys Ile Asn Asn Lys Ile Lys Ser Asp  
 180 185 190  
 Ser Thr Ile Glu Ile Glu Ala Lys Asn Ile Ser Leu Leu Glu Glu Ile  
 195 200 205  
 Glu Asn Ile Lys Ile Glu Thr Asn Pro Lys Ile Leu Ile Asp Lys Lys  
 210 215 220  
 Asn Gly Ile Ile Leu Ala Ser Glu Asn Ala Lys Ile Gly Thr Phe Thr  
 225 230 235 240  
 Phe Ser Ile Glu Lys Asp Asn Gln Asn Ile Phe Leu Ser Lys Asn Asn  
 245 250 255  
 Lys Thr Thr Ile Gln Val Asn Ser Met Lys Leu Asn Glu Phe Ile Leu  
 260 265 270  
 Lys Asn Ser Asn Asn Leu Ser Asn Lys Glu Leu Ile Gln Ile Ile Gln  
 275 280 285  
 Ala Ala Gln Lys Ile Asn Lys Leu Asn Gly Glu Leu Ile Leu Glu Glu  
 290 295 300  
 Ile Asp Gly Asn Gln Asn  
 305 310

&lt;210&gt; 114

&lt;211&gt; 1008

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 114

atgaacaaac taatgttgat gttaattaca ttgcaacga gtctattagc ccaaacaaac 60  
 aaagcttcaa caggactaaa aacagatcaa tcatttaaca atagcctatc tgaaagcgta 120  
 aaattaaaag aaattgcgga tatatatccc acaaatacaa attttttaac aggtattgga 180  
 atagtagcgg gacttgctgg aaaaggagac tctataaaac aaaaagacct tataattaaa 240  
 attttagaag aaaacaatat aataaatgaa ataggctcta ataacataga aagtaaaaat 300  
 attgcactag taaatgtcag tctccaagta aaaggtaata caatcaaagg ttcaaaacat 360  
 aaagcttgcg ttgcatcaat actggactca aaagatttaa caaatggaat acttttataaa 420

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acaaatctta aaaataaaga gggggaaata atagcaattg catcaggaat tacacagccc 480
aataataaat taaaaggatc tggatatact atagatagtg taataataaa tgagaatcaa 540
aatattaacc acagttataa tataattctt aaaaaaggaa attatacatt aataaataga 600
attcataaaa tattaacctc taaaaaaatc aacaacaaaa ttaaatcaga cagcacaata 660
gaaatagaag caaaaaacat aagcctatta gaagagattg aaaatattaa aatagaaacc 720
aaccccaaga tattaataga caaaaaaaat ggtattattt tagcaagtga aaatgcaaaa 780
ataggaactt ttacattttc cattgaaaaa gacaatcaaa acattttttt aagtaaaaaa 840
aacaaaacaa caattcaagt aaactcaatg aaattaaatg aattttatatt aaaaaattcc 900
aacaatctta gcaataaaga attaattcaa ataattcaag ctgcgcaaaa aattaataaa 960
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&lt;210&gt; 115

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 115

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&lt;210&gt; 116

&lt;211&gt; 117

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 116

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Ala Phe Ser Ser Phe Val Thr Asp Ser Ser Val Ser Leu Leu Ser
      20              25              30

Arg Asn Thr Ser Leu Phe Ser Thr Leu Thr Pro Ile Ser Leu Pro Ile
      35              40              45

Ile Ser Gly Thr Leu Pro Ala Ile Val Thr Leu Ser Lys Lys Tyr Leu
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Ser Ile Ser Leu Ser Phe Ser Lys Met Ile Phe Ile Lys Ser Leu Phe
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Glu Val Ile Lys Leu Pro Ile Trp Leu Phe Ile Ile Phe Ala Ser Gly
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Ser Phe Met Phe Ile  
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<210> 117

<211> 98

<212> PRT

<213> Homo sapiens

<400> 117

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Thr Leu Pro Ala Ile Val Thr Leu Ser Lys Lys Tyr Leu Ser Ile Ser  
 35 40 45

Leu Ser Phe Ser Lys Met Ile Phe Ile Lys Ser Leu Phe Glu Val Ile  
 50 55 60

Lys Leu Pro Ile Trp Leu Phe Ile Ile Phe Ala Ser Gly Tyr Phe Leu  
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Asn Ala Phe Ser Ile Phe Leu Cys Ile Ser Ser Phe Leu Ser Phe Met  
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Phe Ile

<210> 118

<211> 354

<212> DNA

<213> Homo sapiens

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 aaaaaatatt tgtcaatctc tttaagcttt tctaaaatga ttttcatcaa atctttattt 240  
 gaagtgatta aacttcccat atggttattc attatttttg catcaggata ctttttaaat 300  
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<211> 297

<212> DNA

<213> Homo sapiens

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 tcgaaaaaat atctgtcaat ctctttaagc ttttctaaaa tgattttcat caaatcttta 180  
 tttgaagtga ttaaacttcc catatgggta ttcattattt ttgcatcagg atacttttta 240  
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<210> 120  
 <211> 310  
 <212> PRT  
 <213> Homo sapiens

<400> 120

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		20						25					30		
Ile	Ile	Asn	Phe	Leu	Phe	Lys	Ile	Asn	Lys	Ser	Gly	Leu	Lys	Lys	Glu
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65					70					75					80
Glu	Gly	Phe	Phe	Thr	Gln	Gln	Ile	Lys	Asn	Asp	Ser	Ser	Gln	Tyr	Ile
				85					90					95	
Asn	Ala	Arg	Lys	Asn	Asn	Ile	Ser	Phe	Ser	Ile	Lys	Arg	Glu	Gly	Ser
			100					105					110		
Lys	Ile	Thr	Phe	Glu	Cys	Pro	Asn	Asn	His	Leu	Ile	Ile	Ile	Gln	Asp
		115					120						125		
Leu	Phe	Arg	Glu	Thr	Ile	Leu	Asn	Leu	Glu	Lys	Ile	Thr	Lys	Glu	Val
	130					135					140				
Glu	Thr	Val	Ser	Leu	Arg	Ala	Lys	Lys	Leu	Asp	Tyr	Ser	Ile	Asn	Tyr
145					150					155					160
Asp	Lys	Ile	Leu	Ser	Asn	Ile	Asn	Leu	Asn	Lys	Arg	Ile	Lys	Lys	Glu
				165				170						175	
Asn	Ile	Ile	Leu	Glu	Leu	Lys	Ser	Ser	Asn	Lys	Ala	Asp	Val	Ile	Arg
			180					185					190		
Glu	Leu	Leu	Ser	Val	Ile	Asn	Ile	Glu	Ile	Asp	Lys	Glu	Arg	Ile	Phe
	195					200						205			
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	210					215						220			
Gly	Phe	Ala	Ile	Pro	His	Leu	Lys	Thr	Asn	Leu	Ile	Ser	Lys	Ile	His
225					230					235					240
Ile	Ala	Ile	Gly	Ile	Ser	His	Glu	Gly	Ile	Asp	Phe	Asn	Ala	Leu	Asp
			245						250					255	
Lys	Asn	Leu	Ser	His	Val	Phe	Ile	Leu	Ile	Leu	Cys	Pro	Ala	Lys	Asp
		260						265					270		
Tyr	Val	Ser	Tyr	Pro	Arg	Ile	Leu	Ala	Ser	Val	Val	Gly	Lys	Val	Asp

275                      280                      285  
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 Asn Ile Ile Val Ser Glx  
 305                      310  
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 Lys Ile Asn Lys Ser Gly Leu Lys Lys Glu Leu Pro Ile Asp Gln Asn  
                     20                      25                      30  
 Thr His Ile Cys Val Ser Phe Glu Tyr Asp Asn Leu Ala Lys Ile Leu  
             35                      40                      45  
 Ile Trp Asp Phe Lys Asn Glu Leu Arg Lys Glu Gly Phe Phe Thr Gln  
     50                      55                      60  
 Gln Ile Lys Asn Asp Ser Ser Gln Tyr Ile Asn Ala Arg Lys Asn Asn  
     65                      70                      75                      80  
 Ile Ser Phe Ser Ile Lys Arg Glu Gly Ser Lys Ile Thr Phe Glu Cys  
                     85                      90                      95  
 Pro Asn Asn His Leu Ile Ile Ile Gln Asp Leu Phe Arg Glu Thr Ile  
             100                      105                      110  
 Leu Asn Leu Glu Lys Ile Thr Lys Glu Val Glu Thr Val Ser Leu Arg  
     115                      120                      125  
 Ala Lys Lys Leu Asp Tyr Ser Ile Asn Tyr Asp Lys Ile Leu Ser Asn  
     130                      135                      140  
 Ile Asn Leu Asn Lys Arg Ile Lys Lys Glu Asn Ile Ile Leu Glu Leu  
 145                      150                      155                      160  
 Lys Ser Ser Asn Lys Ala Asp Val Ile Arg Glu Leu Leu Ser Val Ile  
             165                      170                      175  
 Asn Ile Glu Ile Asp Lys Glu Arg Ile Phe Gln Asp Leu Met Glu Arg  
             180                      185                      190  
 Glu Lys Leu Ile Thr Thr Ala Leu Lys Glu Gly Phe Ala Ile Pro His  
     195                      200                      205  
 Leu Lys Thr Asn Leu Ile Ser Lys Ile His Ile Ala Ile Gly Ile Ser  
     210                      215                      220  
 His Glu Gly Ile Asp Phe Asn Ala Leu Asp Lys Asn Leu Ser His Val  
 225                      230                      235                      240

Leu Asn Ala Lys Thr Asp Lys Glu Ile Tyr Asn Ile Ile Val Ser Glx  
275 280 285

<213> Homo sapiens

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<213> Homo sapiens

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 <212> PRT  
 <213> Homo sapiens

<400> 124

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			20					25					30		
His	Thr	Asp	His	Cys	Ala	Lys	Asn	Leu	Leu	Pro	Trp	Val	Glu	Gly	Leu
		35					40					45			
Leu	Glu	Tyr	Gly	Glu	Lys	Tyr	Tyr	Ser	Gln	His	Lys	Lys	Pro	Leu	Phe
	50					55					60				
Ser	Ser	His	Met	Leu	Asp	Leu	Ser	Glu	Glu	Pro	Ile	Lys	Glu	Asn	Ile
	65				70					75					80
Glu	Ile	Ser	Lys	Lys	Phe	Leu	Glu	Arg	Met	Ala	Lys	Ile	Glu	Met	Phe
				85					90					95	
Leu	Glu	Ile	Glu	Leu	Gly	Ile	Thr	Gly	Gly	Glu	Glu	Asp	Gly	Val	Asp
			100					105					110		
Asn	Ser	Asp	Arg	Ala	Leu	His	Glu	Leu	Phe	Ser	Thr	Pro	Glu	Asp	Ile
		115					120					125			
Tyr	Tyr	Gly	Tyr	Ser	Glu	Leu	Leu	Lys	Val	Ser	Pro	Asn	Phe	Gln	Ile
	130					135					140				
Ala	Ala	Ala	Phe	Gly	Asn	Val	His	Gly	Val	Tyr	Lys	Pro	Gly	Asn	Val
145					150					155					160
Lys	Leu	Thr	Pro	Lys	Val	Leu	Lys	Asp	Gly	Gln	Asp	Tyr	Val	Ile	Ser
				165					170					175	
Lys	Thr	Gly	Val	Asn	Met	Ala	Lys	Pro	Val	Ser	Tyr	Val	Phe	His	Gly
		180						185					190		
Gly	Ser	Gly	Ser	Thr	Ile	Asp	Glu	Ile	Asn	Glu	Ala	Leu	Ser	Tyr	Gly
		195					200					205			
Val	Val	Lys	Met	Asn	Ile	Asp	Thr	Asp	Thr	Gln	Trp	Ala	Ala	Trp	Glu
	210					215					220				
Gly	Val	Leu	Asn	Tyr	Tyr	Lys	Lys	Asn	Glu	Ser	Arg	Leu	Gln	Gly	Gln
225					230					235					240
Leu	Gly	Asp	Gly	Lys	Asp	Ile	Asp	Ile	Pro	Asn	Lys	Lys	Phe	Tyr	Asp
				245					250					255	
Pro	Arg	Val	Trp	Leu	Arg	Glu	Ala	Glu	Val	Ser	Met	Lys	Asp	Arg	Val
			260					265					270		
Lys	Ile	Ala	Cys	Lys	Asn	Leu	Asn	Asn	Ile	Asn	Arg	Asn	Glx		

275                                      280                                      285  
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 <211> 270  
 <212> PRT  
 <213> Homo sapiens  
  
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                   20                  25                  30  
 Leu Glu Tyr Gly Glu Lys Tyr Tyr Ser Gln His Lys Lys Pro Leu Phe  
                   35                  40                  45  
 Ser Ser His Met Leu Asp Leu Ser Glu Glu Pro Ile Lys Glu Asn Ile  
   50                  55                  60  
 Glu Ile Ser Lys Lys Phe Leu Glu Arg Met Ala Lys Ile Glu Met Phe  
   65                  70                  75                  80  
 Leu Glu Ile Glu Leu Gly Ile Thr Gly Gly Glu Glu Asp Gly Val Asp  
                   85                  90                  95  
 Asn Ser Asp Arg Ala Leu His Glu Leu Phe Ser Thr Pro Glu Asp Ile  
                   100                  105                  110  
 Tyr Tyr Gly Tyr Ser Glu Leu Leu Lys Val Ser Pro Asn Phe Gln Ile  
   115                  120                  125  
 Ala Ala Ala Phe Gly Asn Val His Gly Val Tyr Lys Pro Gly Asn Val  
   130                  135                  140  
 Lys Leu Thr Pro Lys Val Leu Lys Asp Gly Gln Asp Tyr Val Ile Ser  
   145                  150                  155                  160  
 Lys Thr Gly Val Asn Met Ala Lys Pro Val Ser Tyr Val Phe His Gly  
                   165                  170                  175  
 Gly Ser Gly Ser Thr Ile Asp Glu Ile Asn Glu Ala Leu Ser Tyr Gly  
                   180                  185                  190  
 Val Val Lys Met Asn Ile Asp Thr Asp Thr Gln Trp Ala Ala Trp Glu  
   195                  200                  205  
 Gly Val Leu Asn Tyr Tyr Lys Lys Asn Glu Ser Arg Leu Gln Gly Gln  
   210                  215                  220  
 Leu Gly Asp Gly Lys Asp Ile Asp Ile Pro Asn Lys Lys Phe Tyr Asp  
   225                  230                  235                  240  
 Pro Arg Val Trp Leu Arg Glu Ala Glu Val Ser Met Lys Asp Arg Val  
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 <213> Homo sapiens

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 aattttcaga ttgcagcagc ttttggaat gttcatgggg tatataaacc ggggaatggt 480  
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 <212> DNA  
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 aaagaaaata ttgaaatttc taaaaaattc ttagaaagaa tggcaaaaat tgaaatgttt 240  
 ttggaatatag agcttggaaat tacgggtggg gaagaggatg gagttgacaa ttcagataga 300  
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 aaaacaggag taaatatggc taagccagtt tcttatgttt ttcattggagg gtctggatct 540  
 acaattgatg agattaatga ggcgctttct tatggcgttg taaagatgaa tattgacaca 600  
 gatacacagt gggctgcctg ggaggggtgt tttaaattatt acaaaaaaaa tgaaagtcgt 660  
 ttgcaaggtc aattaggaga tggcaaggat attgatattc caaataagaa attttatgat 720  
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 <211> 651  
 <212> PRT  
 <213> Homo sapiens

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 Cys Asp Ala Ile Val Tyr Met Leu Asp Asn Glu Asn Ala Ser Ile Phe  
 35 40 45

Asp Leu Leu Lys Ile Val Lys Gly Pro Asp Phe Pro Thr Phe Gly Glu  
 50 55 60  
 Ile Val Tyr Asn Asp Asn Leu Ile Lys Ala Tyr Lys Thr Gly Lys Gly  
 65 70 75 80  
 Ser Val Val Ile Arg Ala Arg Tyr His Ile Glu Glu Arg Ala Glu Asp  
 85 90 95  
 Arg Asn Ala Ile Ile Val Thr Glu Ile Pro Tyr Thr Val Asn Lys Ser  
 100 105 110  
 Ala Leu Leu Met Lys Val Ala Leu Leu Ala Lys Glu Glu Lys Leu Glu  
 115 120 125  
 Gly Leu Leu Asp Ile Arg Asp Glu Ser Asp Arg Glu Gly Ile Arg Ile  
 130 135 140  
 Val Leu Glu Val Lys Arg Gly Phe Asp Pro His Val Ile Met Asn Leu  
 145 150 155 160  
 Leu Tyr Glu Tyr Thr Glu Phe Lys Lys His Phe Ser Ile Asn Asn Leu  
 165 170 175  
 Ala Leu Val Asn Gly Ile Pro Lys Gln Leu Asn Leu Glu Glu Leu Leu  
 180 185 190  
 Phe Glu Phe Ile Glu His Arg Lys Asn Ile Ile Glu Arg Arg Ile Glu  
 195 200 205  
 Phe Asp Leu Arg Lys Ala Lys Glu Lys Ala His Val Leu Glu Gly Leu  
 210 215 220  
 Asn Ile Ala Leu Asn Asn Ile Asp Glu Val Ile Lys Ile Ile Lys Ser  
 225 230 235 240  
 Ser Lys Leu Ala Lys Asp Ala Arg Glu Arg Leu Val Ser Asn Phe Gly  
 245 250 255  
 Leu Ser Glu Ile Gln Ala Asn Ser Val Leu Asp Met Arg Leu Gln Lys  
 260 265 270  
 Leu Thr Ala Leu Glu Ile Phe Lys Leu Glu Glu Glu Leu Asn Ile Leu  
 275 280 285  
 Leu Ser Leu Ile Lys Asp Tyr Glu Asp Ile Leu Leu Asn Pro Val Arg  
 290 295 300  
 Ile Ile Asn Ile Ile Arg Glu Glu Thr Ile Asn Leu Gly Leu Lys Phe  
 305 310 315 320  
 Gly Asp Glu Arg Arg Thr Lys Ile Ile Tyr Asp Glu Glu Val Leu Lys  
 325 330 335  
 Thr Ser Met Ser Asp Leu Met Gln Lys Glu Asn Ile Val Val Met Leu  
 340 345 350

Thr Lys Lys Gly Phe Leu Lys Arg Leu Ser Gln Asn Glu Tyr Lys Leu  
 355 360 365  
 Gln Gly Thr Gly Gly Lys Gly Leu Ser Ser Phe Asp Leu Asn Asp Gly  
 370 375 380  
 Asp Glu Ile Val Ile Ala Leu Cys Val Asn Thr His Asp Tyr Leu Phe  
 385 390 395 400  
 Met Ile Ser Asn Glu Gly Lys Leu Tyr Leu Ile Asn Ala Tyr Glu Ile  
 405 410 415  
 Lys Asp Ser Ser Arg Ala Ser Lys Gly Gln Asn Ile Ser Glu Leu Ile  
 420 425 430  
 Asn Leu Gly Asp Gln Glu Glu Ile Leu Thr Ile Lys Asn Ser Lys Asp  
 435 440 445  
 Leu Thr Asp Asp Ala Tyr Leu Leu Leu Thr Thr Ala Ser Gly Lys Ile  
 450 455 460  
 Ala Arg Phe Glu Ser Thr Asp Phe Lys Ala Val Lys Ser Arg Gly Val  
 465 470 475 480  
 Ile Val Ile Lys Leu Asn Asp Lys Asp Phe Val Thr Ser Ala Glu Ile  
 485 490 495  
 Val Phe Lys Asp Glu Lys Val Ile Cys Leu Ser Lys Lys Gly Ser Ala  
 500 505 510  
 Phe Ile Phe Asn Ser Arg Asp Val Arg Leu Thr Asn Arg Gly Thr Gln  
 515 520 525  
 Gly Val Cys Gly Met Lys Leu Lys Glu Gly Asp Leu Phe Val Lys Val  
 530 535 540  
 Leu Ser Val Lys Glu Asn Pro Tyr Leu Leu Ile Val Ser Glu Asn Gly  
 545 550 555 560  
 Tyr Gly Lys Arg Leu Asn Met Ser Lys Ile Ser Glu Leu Lys Arg Gly  
 565 570 575  
 Ala Thr Gly Tyr Thr Ser Tyr Lys Lys Ser Asp Lys Lys Ala Gly Ser  
 580 585 590  
 Val Val Asp Ala Ile Ala Val Ser Glu Asp Asp Glu Ile Leu Leu Val  
 595 600 605  
 Ser Lys Arg Ser Lys Ala Leu Arg Thr Val Ala Gly Lys Val Ser Glu  
 610 615 620  
 Gln Gly Lys Asp Ala Arg Gly Ile Gln Val Leu Phe Leu Asp Asn Asp  
 625 630 635 640  
 Ser Leu Val Ser Val Ser Lys Phe Ile Lys Glx  
 645 650

&lt;211&gt; 632

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 129

Met Ala Thr Asn Met Ala Pro His Asn Leu Arg Glu Ile Cys Asp Ala  
 1 5 10 15

Ile Val Tyr Met Leu Asp Asn Glu Asn Ala Ser Ile Phe Asp Leu Leu  
 20 25 30

Lys Ile Val Lys Gly Pro Asp Phe Pro Thr Phe Gly Glu Ile Val Tyr  
 35 40 45

Asn Asp Asn Leu Ile Lys Ala Tyr Lys Thr Gly Lys Gly Ser Val Val  
 50 55 60

Ile Arg Ala Arg Tyr His Ile Glu Glu Arg Ala Glu Asp Arg Asn Ala  
 65 70 75 80

Ile Ile Val Thr Glu Ile Pro Tyr Thr Val Asn Lys Ser Ala Leu Leu  
 85 90 95

Met Lys Val Ala Leu Leu Ala Lys Glu Glu Lys Leu Glu Gly Leu Leu  
 100 105 110

Asp Ile Arg Asp Glu Ser Asp Arg Glu Gly Ile Arg Ile Val Leu Glu  
 115 120 125

Val Lys Arg Gly Phe Asp Pro His Val Ile Met Asn Leu Leu Tyr Glu  
 130 135 140

Tyr Thr Glu Phe Lys Lys His Phe Ser Ile Asn Asn Leu Ala Leu Val  
 145 150 155 160

Asn Gly Ile Pro Lys Gln Leu Asn Leu Glu Glu Leu Leu Phe Glu Phe  
 165 170 175

Ile Glu His Arg Lys Asn Ile Ile Glu Arg Arg Ile Glu Phe Asp Leu  
 180 185 190

Arg Lys Ala Lys Glu Lys Ala His Val Leu Glu Gly Leu Asn Ile Ala  
 195 200 205

Leu Asn Asn Ile Asp Glu Val Ile Lys Ile Ile Lys Ser Ser Lys Leu  
 210 215 220

Ala Lys Asp Ala Arg Glu Arg Leu Val Ser Asn Phe Gly Leu Ser Glu  
 225 230 235 240

Ile Gln Ala Asn Ser Val Leu Asp Met Arg Leu Gln Lys Leu Thr Ala  
 245 250 255

Leu Glu Ile Phe Lys Leu Glu Glu Glu Leu Asn Ile Leu Leu Ser Leu  
 260 265 270

Ile Lys Asp Tyr Glu Asp Ile Leu Leu Asn Pro Val Arg Ile Ile Asn  
 275 280 285

Ile Ile Arg Glu Glu Thr Ile Asn Leu Gly Leu Lys Phe Gly Asp Glu  
 290 295 300  
 Arg Arg Thr Lys Ile Ile Tyr Asp Glu Glu Val Leu Lys Thr Ser Met  
 305 310 315 320  
 Ser Asp Leu Met Gln Lys Glu Asn Ile Val Val Met Leu Thr Lys Lys  
 325 330 335  
 Gly Phe Leu Lys Arg Leu Ser Gln Asn Glu Tyr Lys Leu Gln Gly Thr  
 340 345 350  
 Gly Gly Lys Gly Leu Ser Ser Phe Asp Leu Asn Asp Gly Asp Glu Ile  
 355 360 365  
 Val Ile Ala Leu Cys Val Asn Thr His Asp Tyr Leu Phe Met Ile Ser  
 370 375 380  
 Asn Glu Gly Lys Leu Tyr Leu Ile Asn Ala Tyr Glu Ile Lys Asp Ser  
 385 390 395 400  
 Ser Arg Ala Ser Lys Gly Gln Asn Ile Ser Glu Leu Ile Asn Leu Gly  
 405 410 415  
 Asp Gln Glu Glu Ile Leu Thr Ile Lys Asn Ser Lys Asp Leu Thr Asp  
 420 425 430  
 Asp Ala Tyr Leu Leu Leu Thr Thr Ala Ser Gly Lys Ile Ala Arg Phe  
 435 440 445  
 Glu Ser Thr Asp Phe Lys Ala Val Lys Ser Arg Gly Val Ile Val Ile  
 450 455 460  
 Lys Leu Asn Asp Lys Asp Phe Val Thr Ser Ala Glu Ile Val Phe Lys  
 465 470 475 480  
 Asp Glu Lys Val Ile Cys Leu Ser Lys Lys Gly Ser Ala Phe Ile Phe  
 485 490 495  
 Asn Ser Arg Asp Val Arg Leu Thr Asn Arg Gly Thr Gln Gly Val Cys  
 500 505 510  
 Gly Met Lys Leu Lys Glu Gly Asp Leu Phe Val Lys Val Leu Ser Val  
 515 520 525  
 Lys Glu Asn Pro Tyr Leu Leu Ile Val Ser Glu Asn Gly Tyr Gly Lys  
 530 535 540  
 Arg Leu Asn Met Ser Lys Ile Ser Glu Leu Lys Arg Gly Ala Thr Gly  
 545 550 555 560  
 Tyr Thr Ser Tyr Lys Lys Ser Asp Lys Lys Ala Gly Ser Val Val Asp  
 565 570 575  
 Ala Ile Ala Val Ser Glu Asp Asp Glu Ile Leu Leu Val Ser Lys Arg  
 580 585 590

Ser Lys Ala Leu Arg Thr Val Ala Gly Lys Val Ser Glu Gln Gly Lys  
595 600 605

Asp Ala Arg Gly Ile Gln Val Leu Phe Leu Asp Asn Asp Ser Leu Val  
610 615 620

Ser Val Ser Lys Phe Ile Lys Glx  
625 630

<210> 130

<211> 1953

<212> DNA

<213> Homo sapiens

<400> 130

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gataatgaga atgcttctat atttgatttg cttaaaatag ttaaagggcc tgatttccca 180
acttttggag agattgttta taatgataat ttaattaaag catacaaaac tggcaaggga 240
agtgttggtta ttagggaag atatcatatt gaagaaagag cagaagatag aaatgctata 300
attgttacag aaatacctta tacggtaaat aaatctgcac ttcttatgaa agttgcgctt 360
ttagcaaaag aagaaaagct agaaggactt ttagatataa gagatgaatc tgatcgagaa 420
ggtattagga tagttcctga agttaaaaga ggatttgatc ctcatgttat tatgaatttg 480
ctttatgaat atactgaatt taaaaagcat tttagtataa ataatttagc cttgtttaat 540
ggtattccca aacagttaaa tttagaagaa ttgttatttg aattttattga gcatagaaaa 600
aatattatcg aaagacgtat tgaatttgac ttgagaaagg caaaagagaa agcacatgtt 660
cttgagggat taaatattgc tttaaataat atagatgagg ttattaagat tattaaatca 720
tctaaattag caaaagatgc aagggagagg cttgtttcga attttggctt ttcagagatt 780
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aatccagtaa ggattattaa tattataaga gaagaaacta ttaatttagg tttgaaattt 960
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gaaaaagtaa tttgtctttc taaaaagggt agtgcattta tatttaattc aagggatgtt 1560
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gaggatgatg aaatcttgct tgtaagtaaa cgttcaaaag ctttaagaac agtagctgga 1860
aaagtatctg aacaaggcaa agatgctaga ggaattcaag tattatttct tgataatgac 1920
agcttggttt ctgtttcaaa atttattaaa taa
1953

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<210> 131

<211> 1896

<212> DNA

<213> Homo sapiens

<400> 131

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atggctacta atatggcacc tcataattta agagaaattt gtgatgccat tgtttacatg 60
ctagataatg agaatgcttc tatatttgat ttgcttaaaa tagttaaagg gcctgatttc 120
ccaacttttg gagagattgt ttataatgat aatttaatta aagcatacaa aactggcaag 180

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ggaagtgttg ttattagggc aagatatcat attgaagaaa gagcagaaga tagaaatgct 240
ataattgtta cagaaatacc ttatacggta aataaatctg cacttccttat gaaagttgcg 300
cttttagcaa aagaagaaaa gctagaagga ctttttagata taagagatga atctgatcga 360
gaaggtatta ggatagttct tgaagttaaa agaggatttg atcctcatgt tattatgaat 420
ttgcttttat aatatactga atttaaaaag ctttttagta taaataattt agcccttggt 480
aatgggtatt ccaaacagtt aaatttagaa gaattgttat ttgaatttat tgagcataga 540
aaaaatatta tcgaaagacg tattgaattt gacttgagaa aggcaaaaga gaaagcacat 600
gttcttgagg gattaaatat tgctttaaat aatatagatg aggttattaa gattattaaa 660
tcactctaat tagcaaaaaga tgcaagggag aggcttggtt cgaatttttg tctttcagag 720
attcaggcca attcagttct tgatatgagg ttacaaaaaac ttacagccct tgagattttt 780
aagcttgaag aggagcttaa tatactgtta agcttaataa aagattatga agatattctc 840
ttgaatccag taaggattat taatattata agagaagaaa ctattaattt aggtttgaaa 900
tttgcgatg aacgtcgaac taaaataatt tatgatgagg aggttttaaa aactagtatg 960
tcggatttaa tgcaaaaaga aaatattggt gttatgctta caaagaaagg tttccttaaa 1020
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tttatgattt caaatgaagg aaagctttat ttaatcaatg cttatgaaat aaaagattct 1200
tcaagagctt caaaaaggta gaattattag gagcttatta atttaggaga tcaagaagaa 1260
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gcaagtggaa agatagctag attcgaatct acagatttta aagcagtaaa gtcacgaggt 1380
gttattgtta ttaactgaa tgataaagat tttgttaca gtgcagagat tgtttttaag 1440
gatgaaaaag taatttgtct ttctaaaaag ggtagtgcac ttatatttaa tcaagggat 1500
gttaggctta ctaatagagg tacccaagg gtttgtggaa tgaaattaaa agaagggtgat 1560
ttgtttgtta aagttttatc gggttaaagaa aatccttatc ttttgattgt ttctgaaaat 1620
gggtatggaa aaagggttaaa catgtctaaa atatctgagc ttaaaagagg agccactggt 1680
tatactagtt ataaaaaatc tgataaaaaa gcgggtagtg ttgttgatgc tatagcagtt 1740
tcagaggatg atgaaatctt gcttgtaagt aaacgttcaa aagctttaag aacagtagct 1800
ggaaaagtat ctgaacaagg caaagatgct agaggaattc aagtattatt tcttgataat 1860
gacagcttgg tttctgtttc aaaattttatt aataaa 1896

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&lt;210&gt; 132

&lt;211&gt; 105

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 132

```

Met Phe Ala Leu Ile Arg Lys Ile Phe Met Ile Tyr Phe Leu Cys Ile
  1             5             10             15

```

```

Thr Leu Ala Gly Phe Ala Met Ile Phe Ile Asp Ser Lys Phe Thr Glu
      20             25             30

```

```

Gln Pro Asn Val Lys Glu Asn Gln Ser Lys Ile Asn Gln His Thr Ile
      35             40             45

```

```

Glu Pro Asn Leu Ile Met Phe Thr Ser Ser Ile Gly Gly Phe Leu Gly
      50             55             60

```

```

Val Tyr Val Gly Ile Trp Ile Phe Asn Tyr Asp Lys Ser Asn Phe Tyr
      65             70             75             80

```

```

Leu Asn Trp Gly Asn Leu Ile Ile Leu Ile Tyr Asn Ile Ala Leu Ile
      85             90             95

```

```

Ile Thr Val Tyr Ser Lys Ser His Ser
      100             105

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&lt;210&gt; 133

<211> 83  
 <212> PRT  
 <213> Homo sapiens

<400> 133  
 Met Ile Phe Ile Asp Ser Lys Phe Thr Glu Gln Pro Asn Val Lys Glu  
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 Asn Gln Ser Lys Ile Asn Gln His Thr Ile Glu Pro Asn Leu Ile Met  
                   20                  25                  30  
 Phe Thr Ser Ser Ile Gly Gly Phe Leu Gly Val Tyr Val Gly Ile Trp  
           35                  40                  45  
 Ile Phe Asn Tyr Asp Lys Ser Asn Phe Tyr Leu Asn Trp Gly Asn Leu  
           50                  55                  60  
 Ile Ile Leu Ile Tyr Asn Ile Ala Leu Ile Ile Thr Val Tyr Ser Lys  
           65                  70                  75                  80  
 Ser His Ser

<210> 134  
 <211> 318  
 <212> DNA  
 <213> Homo sapiens

<400> 134  
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 ttgtccatga tttttattga cagcaaattt accgaacagc ctaatgttaa agaaaatcaa 120  
 agcaaaatta atcaacatac aattgaaccc aatttaataca tgtttacatc ttctatagga 180  
 ggatttttag gtgtttatgt tggaatttgg atctttaact atgacaaaag caatttttac 240  
 ctaaattggg gaaatttaata aatattaata tacaacatag ccctaattat cactgtatac 300  
 tcaaaatcac atagtttag 318

<210> 135  
 <211> 252  
 <212> DNA  
 <213> Homo sapiens

<400> 135  
 atgattttta ttgacagcaa atttaccgaa cagcctaattg tttaaagaaaa tcaaagcaaa 60  
 attaatacac atacaattga acccaattta atcatgttta catcttctat aggaggattt 120  
 ttaggtgttt atgttggaaat ttggatcttt aactatgaca aaagcaattt ttacctaaat 180  
 tggggaaatt taataatatt aatatacaac atagccctaa ttatcactgt atactcaaaa 240  
 tcacatagtt ag 252

<210> 136  
 <211> 209  
 <212> PRT  
 <213> Homo sapiens

<400> 136  
 Met Lys Lys Thr Pro Asn Thr Cys Ile Phe Leu Thr Leu Leu Ile Ile  
           1                  5                  10                  15  
 Ser Asn Leu Asn Ala Leu Ala Asn Glu Glu Gly Asn Thr Asn Glu Lys

20					25					30					
Asn	Asp	Gln	Pro	Lys	Gln	Ile	Ser	Asn	Phe	Phe	Ser	Pro	Glu	Arg	Gly
	35					40					45				
Phe	Ile	Tyr	Ser	Thr	Gly	Ile	Gly	Ile	Gly	Val	Gly	Phe	Phe	Leu	Asn
	50					55					60				
Ser	Asn	Ile	Lys	His	Leu	Ile	Phe	Arg	Pro	Tyr	Tyr	Thr	Phe	Ser	Asn
	65					70					75				80
Asn	Thr	Phe	Asp	Phe	Leu	Ile	Val	Ala	Met	Ile	Leu	Thr	Arg	Glu	Ser
				85					90					95	
Leu	Asn	Ile	Pro	Lys	Lys	Met	Gln	Tyr	Phe	Lys	Ser	Tyr	Ile	Gly	Gly
			100				105						110		
Gly	Ile	Asn	Trp	His	Ile	Ala	Asn	Leu	Ile	Lys	Lys	Thr	Lys	Tyr	Phe
		115					120						125		
Ser	Ala	Thr	Ile	Gly	Ile	Gly	Gly	Arg	Phe	Tyr	Leu	Ser	Thr	Asn	Phe
	130					135					140				
Ile	Glu	Asp	Ile	Arg	Phe	Tyr	Glu	Lys	Leu	Pro	Tyr	Val	Ile	Glu	Pro
	145					150					155				160
Tyr	Met	Phe	Ile	Glu	Ile	Ser	Ser	Lys	Lys	Ala	Ile	Pro	Leu	Met	Gly
			165					170						175	
Leu	Asp	Phe	Lys	Ile	Asp	Phe	Leu	Phe	Leu	Asp	Thr	Phe	Asn	Ile	Ser
			180					185					190		
Phe	Asn	Phe	Thr	Ile	Arg	Tyr	Asn	Phe	Lys	Asp	Lys	Asn	Glu	Met	Glu
	195					200						205			

Thr

&lt;210&gt; 137

&lt;211&gt; 186

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 137

Asn	Glu	Glu	Gly	Asn	Thr	Asn	Glu	Lys	Asn	Asp	Gln	Pro	Lys	Gln	Ile
1				5					10					15	

Ser	Asn	Phe	Phe	Ser	Pro	Glu	Arg	Gly	Phe	Ile	Tyr	Ser	Thr	Gly	Ile
			20					25					30		

Gly	Ile	Gly	Val	Gly	Phe	Phe	Leu	Asn	Ser	Asn	Ile	Lys	His	Leu	Ile
		35					40					45			

Phe	Arg	Pro	Tyr	Tyr	Thr	Phe	Ser	Asn	Asn	Thr	Phe	Asp	Phe	Leu	Ile
	50						55				60				

Val	Ala	Met	Ile	Leu	Thr	Arg	Glu	Ser	Leu	Asn	Ile	Pro	Lys	Lys	Met
	65					70				75				80	

Gln Tyr Phe Lys Ser Tyr Ile Gly Gly Gly Ile Asn Trp His Ile Ala  
85 90 95

Asn Leu Ile Lys Lys Thr Lys Tyr Phe Ser Ala Thr Ile Gly Ile Gly  
100 105 110

Gly Arg Phe Tyr Leu Ser Thr Asn Phe Ile Glu Asp Ile Arg Phe Tyr  
115 120 125

Glu Lys Leu Pro Tyr Val Ile Glu Pro Tyr Met Phe Ile Glu Ile Ser  
130 135 140

Ser Lys Lys Ala Ile Pro Leu Met Gly Leu Asp Phe Lys Ile Asp Phe  
145 150 155 160

Leu Phe Leu Asp Thr Phe Asn Ile Ser Phe Asn Phe Thr Ile Arg Tyr  
165 170 175

Asn Phe Lys Asp Lys Asn Glu Met Glu Thr  
180 185

<210> 138

<211> 630

<212> DNA

<213> Homo sapiens

<400> 138

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gcacttgcaa atgaagaagg caatactaata gaaaaaaatg atcaacccaa acaaatctct 120
aattttttta gccagaaag agggttcata tattcaacag gaattgggat tggagttgga 180
ttttttctaa attcaaata taaacacctt atcttttagac cttattatac attctctaata 240
aatacttttg attttttaat cgttgctatg atattaacaa gggaaagcct taatatcccc 300
aaaaaaatgc aatactttta atcttatatt ggaggaggaa taaactggca cattgcaaac 360
ttaattaaaa aaacaaaata tttttccgcc accattggca taggtggtcg tttttaccta 420
tctacaaact ttatagaaga cattcgattt tacgaaaaat tgccttatgt aatagagcct 480
tatatgttta ttgaaatttc ttctaaaaag gcaattcctt taatggggtt agactttaaa 540
attgattttt tatttttaga tacatttaac atttctttta attttactat tagatataat 600
tttaaggaca aaaacgagat ggaaacatga 630
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<210> 139

<211> 561

<212> DNA

<213> Homo sapiens

<400> 139

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aattcaaata ttaaacacct tatctttaga ccttattata cattctctaa taatactttt 180
gattttttta tcgttgctat gatattaaca agggaaagcc ttaatatccc caaaaaaatg 240
caatacttta aatcttatat tggaggagga ataaactggc acattgcaaa ctttaattaaa 300
aaaacaaaat atttttccgc caccattggc ataggtggtc gtttttacct atctacaaac 360
tttatagaag acattcgatt ttacgaaaaa ttgccttatg taatagagcc ttatatgttt 420
attgaaattt cttctaaaaa ggcaattcct ttaatggggt tagactttta aattgatttt 480
ttatttttag atacatttaa catttctttt aattttacta ttagatataa ttttaaggac 540
aaaaacgaga tggaaacatg a 561
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<210> 140

&lt;211&gt; 328

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 140

Met Ile Pro Val Val Ala Ser Gly Gly Ile Leu Ile Ala Leu Ser Ile  
 1 5 10 15

Ala Phe Val Gly Ile Gly Pro Asp Gly Pro Asn Phe Ala Glu His Pro  
 20 25 30

Phe Tyr Lys Gln Ile Ala Asp Ile Gly Ser Ile Ala Phe Gly Met Met  
 35 40 45

Leu Pro Val Leu Ala Gly Phe Ile Ala Met Ala Ile Ala Asp Lys Pro  
 50 55 60

Gly Leu Thr Pro Gly Leu Val Gly Gly Val Met Ser Gly Asn Val Lys  
 65 70 75 80

Ala Gly Phe Leu Gly Ala Ile Phe Ala Gly Phe Leu Ala Gly Tyr Val  
 85 90 95

Ala Arg Phe Leu Ala Arg Arg Ser Val Pro Glu Trp Leu Arg Pro Val  
 100 105 110

Met Pro Ile Phe Val Ile Pro Leu Ile Ser Thr Ile Ile Val Gly Phe  
 115 120 125

Phe Met Leu Tyr Phe Gly Val Tyr Ile Gly Lys Phe Met Gly Val Leu  
 130 135 140

Glu Ser Gly Leu Lys Ser Leu Gln Ser Asn Ser Glu Thr Phe Gly Val  
 145 150 155 160

Leu Gly Lys Ile Phe Leu Gly Leu Val Leu Gly Ser Met Ile Thr Val  
 165 170 175

Asp Met Gly Gly Pro Phe Asn Lys Val Ala Phe Leu Phe Gly Val Gly  
 180 185 190

Leu Ile Pro Gln Val Pro Glu Ile Met Gly Met Val Ala Ala Ala Ile  
 195 200 205

Pro Val Pro Pro Met Ala Met Gly Leu Ala Thr Phe Leu Ala Pro Lys  
 210 215 220

Leu Phe Glu Asn Glu Glu Lys Glu Ser Gly Lys Ile Ala Phe Leu Ile  
 225 230 235 240

Ser Phe Ile Gly Ile Ser Glu Gly Ala Ile Pro Phe Ala Ala Ser Asp  
 245 250 255

Pro Gly Arg Val Ile Pro Ser Ile Val Val Gly Gly Ala Val Ser Ser  
 260 265 270

Ile Ile Ala Ala Phe Leu Gly Val Ala Asn His Ala Pro His Gly Gly  
 275 280 285

Pro Ile Val Leu Pro Val Ile Asp Asn Lys Phe Gly Phe Ile Ile Ala  
 290 295 300

Ile Ala Val Gly Val Ala Val Ala Thr Ala Leu Val Ile Phe Leu Lys  
 305 310 315 320

Ser Leu Lys Leu Lys Glu Ser Glu  
 325

<210> 141

<211> 267

<212> PRT

<213> Homo sapiens

<400> 141

Asp Lys Pro Gly Leu Thr Pro Gly Leu Val Gly Gly Val Met Ser Gly  
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Asn Val Lys Ala Gly Phe Leu Gly Ala Ile Phe Ala Gly Phe Leu Ala  
 20 25 30

Gly Tyr Val Ala Arg Phe Leu Ala Arg Arg Ser Val Pro Glu Trp Leu  
 35 40 45

Arg Pro Val Met Pro Ile Phe Val Ile Pro Leu Ile Ser Thr Ile Ile  
 50 55 60

Val Gly Phe Phe Met Leu Tyr Phe Gly Val Tyr Ile Gly Lys Phe Met  
 65 70 75 80

Gly Val Leu Glu Ser Gly Leu Lys Ser Leu Gln Ser Asn Ser Glu Thr  
 85 90 95

Phe Gly Val Leu Gly Lys Ile Phe Leu Gly Leu Val Leu Gly Ser Met  
 100 105 110

Ile Thr Val Asp Met Gly Gly Pro Phe Asn Lys Val Ala Phe Leu Phe  
 115 120 125

Gly Val Gly Leu Ile Pro Gln Val Pro Glu Ile Met Gly Met Val Ala  
 130 135 140

Ala Ala Ile Pro Val Pro Pro Met Ala Met Gly Leu Ala Thr Phe Leu  
 145 150 155 160

Ala Pro Lys Leu Phe Glu Asn Glu Glu Lys Glu Ser Gly Lys Ile Ala  
 165 170 175

Phe Leu Ile Ser Phe Ile Gly Ile Ser Glu Gly Ala Ile Pro Phe Ala  
 180 185 190

Ala Ser Asp Pro Gly Arg Val Ile Pro Ser Ile Val Val Gly Gly Ala  
 195 200 205

Val Ser Ser Ile Ile Ala Ala Phe Leu Gly Val Ala Asn His Ala Pro  
 210 215 220

His Gly Gly Pro Ile Val Leu Pro Val Ile Asp Asn Lys Phe Gly Phe  
225 230 235 240

Ile Ile Ala Ile Ala Val Gly Val Ala Val Ala Thr Ala Leu Val Ile  
245 250 255

Phe Leu Lys Ser Leu Lys Leu Lys Glu Ser Glu  
260 265

<210> 142  
<211> 987  
<212> DNA  
<213> Homo sapiens

<400> 142  
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ggttctatag cttttgggat gatgttgccc gtgcttgctg gttttattgc aatggcaatt 180  
gctgataagc ctggtccttac ccccggtcct gttgggtggag taatgtctgg gaatgtaaaa 240  
gcagggtttct tgggcgcaat atttgccgggc tttcttgccag gttatgttgc aagggttttta 300  
gcaagaagat ctgttcctga gtggttaaga cctgtaatgc ctatatattgt aattccgcta 360  
ataagcacca ttattgtcgg cttttttatg ctgtattttg gtgtttatat tggaaaatttt 420  
atgggggtgc ttgagagtgg gcttaaatct ttacagagta attcggaaac ttttggcgtg 480  
ttgggtaaaa ttttcttagg cttagtacta gggtcaatga ttactgttga tatgggcgga 540  
ccttttaata aagtggcatt tctttttggt gtagggctaa ttccctcaagt gccagaaata 600  
atgggaatgg tagcagcagc aattcctggt cctcctatgg ctatggggct tgcaaccttt 660  
ttagcaccta aattgtttga aaatgaagaa aaagaatctg gtaaaatagc ctttttaatt 720  
tcattttattg gtattagcga aggagctatt ccttttgctg ctagtgatcc cggacgggta 780  
atcccttcga tagtggtagg gggagctgta tcaagcatta ttgccgcttt tttaggcgtt 840  
gctaatacatg ctccacacgg aggaccaata gtacttcctg ttattgataa taaatttggg 900  
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tcttttaaat taaaggaatc tgaatga 987

<210> 143  
<211> 804  
<212> DNA  
<213> Homo sapiens

<400> 143  
gataagcctg gtcttaccct cggctcttgtt ggtggagtaa tgtctgggaa tgtaaaagca 60  
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agaagatctg ttcctgagtg gtttaagacct gtaatgccta tatttgtaat tccgctaata 180  
agcaccatta ttgtcggctt ttttatgctg tattttggtg ttatatattg aaaatttatg 240  
ggggtgcttg agagtgggct taaatcttta cagagtaatt cggaaaacttt tggcgtggtg 300  
ggtaaaattt tcttaggctt agtactaggt tcaatgatta ctgttgatat gggcggacct 360  
tttaataaag tggcatttct ttttggtgta gggctaattc ctcaagtgcc agaaataatg 420  
ggaatggtag cagcagcaat tcctgttctt cctatggcta tggggcttgc aaccttttta 480  
gcacctaaat tgtttgaaaa tgaagaaaaa gaatctggta aaatagcctt tttaatttca 540  
tttattggta ttagcgaagg agctattcct tttgctgcta gtgatcccg acgggtaatc 600  
ccttcgatag tggtaggggg agctgtatca agcattattg ccgctttttt aggcgttgct 660  
aatcatgctc cacacggagg accaatagta cttcctgtta ttgataataa atttgggttt 720  
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ttaaaattaa aggaatctga atga 804

<210> 144  
<211> 203  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 144

Met Ile Lys Ile Phe Lys Lys Ile Tyr Ile Leu Thr Leu Val Leu Gly  
 1 5 10 15

Met Ala His Leu Ser Phe Ala Ser Asp Asn Tyr Met Val Arg Cys Ser  
 20 25 30

Lys Glu Glu Asp Ser Thr Thr Cys Ile Ala Lys Leu Lys Glu Ile Lys  
 35 40 45

Glu Lys Lys Asn Tyr Asp Leu Phe Ser Met Gly Ile Gly Ile Gly Asp  
 50 55 60

Pro Ile Ala Asn Ile Met Ile Thr Ile Pro Tyr Ile Asn Ile Asp Phe  
 65 70 75 80

Gly Tyr Gly Gly Phe Ile Gly Leu Lys Ser Asn Asn Phe Glu Asn Tyr  
 85 90 95

Leu Asn Gly Gly Ile Asp Val Ile Phe Lys Lys Gln Ile Gly Gln Tyr  
 100 105 110

Met Lys Ile Gly Gly Gly Ile Gly Ile Gly Ala Asp Trp Ser Lys Thr  
 115 120 125

Ser Leu Ile Pro Pro Asn Glu Glu Glu Thr Asp Tyr Glu Arg Ile  
 130 135 140

Gly Ala Val Ile Arg Ile Pro Phe Ile Met Glu Tyr Asn Phe Ala Lys  
 145 150 155 160

Asn Leu Ser Ile Gly Phe Lys Ile Tyr Pro Ala Val Gly Pro Thr Ile  
 165 170 175

Leu Leu Thr Lys Pro Ser Ile Leu Phe Glu Gly Ile Lys Phe Asn Phe  
 180 185 190

Phe Gly Phe Gly Phe Ile Lys Phe Ala Phe Asn  
 195 200

&lt;210&gt; 145

&lt;211&gt; 179

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 145

Asp Asn Tyr Met Val Arg Cys Ser Lys Glu Glu Asp Ser Thr Thr Cys  
 1 5 10 15

Ile Ala Lys Leu Lys Glu Ile Lys Glu Lys Lys Asn Tyr Asp Leu Phe  
 20 25 30

Ser Met Gly Ile Gly Ile Gly Asp Pro Ile Ala Asn Ile Met Ile Thr  
 35 40 45

Ile Pro Tyr Ile Asn Ile Asp Phe Gly Tyr Gly Gly Phe Ile Gly Leu  
 50 55 60



Lys Ser Asn Asn Phe Glu Asn Tyr Leu Asn Gly Gly Ile Asp Val Ile  
 65 70 75 80  
 Phe Lys Lys Gln Ile Gly Gln Tyr Met Lys Ile Gly Gly Gly Ile Gly  
 85 90 95  
 Ile Gly Ala Asp Trp Ser Lys Thr Ser Leu Ile Pro Pro Asn Glu Glu  
 100 105 110  
 Glu Glu Thr Asp Tyr Glu Arg Ile Gly Ala Val Ile Arg Ile Pro Phe  
 115 120 125  
 Ile Met Glu Tyr Asn Phe Ala Lys Asn Leu Ser Ile Gly Phe Lys Ile  
 130 135 140  
 Tyr Pro Ala Val Gly Pro Thr Ile Leu Leu Thr Lys Pro Ser Ile Leu  
 145 150 155 160  
 Phe Glu Gly Ile Lys Phe Asn Phe Phe Gly Phe Gly Phe Ile Lys Phe  
 165 170 175  
 Ala Phe Asn

<210> 146  
 <211> 612  
 <212> DNA  
 <213> Homo sapiens

<400> 146  
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 tcttttgcac ctgacaatta tatgggtcaga tgcagcaagg aagaagattc aaccacctgt 120  
 atcgcaaagc ttaaagaaat aaaagaaaag aaaaattatg acttatattc aatgggcatt 180  
 ggaataggag atcctattgc aaatattatg attacaattc cttatataaa tattgatttt 240  
 ggatatggag gttttattgg ccttaagtca aacaattttg aaaattatct aaatggtgga 300  
 atagacgtta tttttaaaaa gcaaattgga caatatatga aaattggcgg cggcattgga 360  
 ataggtgagg attggtcaaa aacatccctt ataccctcta atgaagaaga agaaactgat 420  
 tatgagagaa taggcgctgt tataagaatt ccttttataa tggaatataa ttttgcaaaa 480  
 aatttatcca taggattcaa aatttatcct gcagtagggc caacaatatt actaacaaaa 540  
 ccaagcattt tatttgaagg aattaaattc aatttttttg gatttggatt cataaaattt 600  
 gcatttaatt aa 612

<210> 147  
 <211> 540  
 <212> DNA  
 <213> Homo sapiens

<400> 147  
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 aaagaaataa aagaaaagaa aaattatgac ttattttcaa tgggcatttg aataggagat 120  
 cctattgcaa atattatgat tacaattcct tatataaata ttgatttttg atatggaggt 180  
 tttattggcc ttaagtcaaa caattttgaa aattatctaa atggtggaat agacgttatt 240  
 tttaaaaagc aaattggaca atatatgaaa attggcggcg gcattggaat aggtgcggat 300  
 tgggtcaaaaa catcccttat acccccta atgaagaag aaactgatta tgagagaata 360  
 ggcgctgtta taagaattcc ttttataatg gaatataatt ttgcaaaaaa tttatccata 420  
 ggattcaaaa tttatcctgc agtagggcca acaatattac taacaaaacc aagcatttta 480  
 tttgaaggaa ttaaattcaa tttttttgga tttggattca taaaatttgc atttaattaa 540

<210> 148  
 <211> 203  
 <212> PRT  
 <213> Homo sapiens

<400> 148

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Met Arg Met Leu Leu Ala Thr Ile Ile Leu Ile Leu Thr Thr Gly Leu
 1           5           10           15

Leu Ala Ala Gln Ser Lys Ser Lys Ser Met Thr Glu Asp Asp Phe Asp
      20           25           30

Phe Asp Lys Leu Leu Ala Lys Glu Glu Ser Val Arg Arg Leu Phe Gly
      35           40           45

Ile Gly Phe Gly Val Gly Tyr Pro Leu Ala Asn Ile Thr Ile Ser Val
      50           55           60

Pro Tyr Val Asp Ile Asp Leu Gly Tyr Gly Gly Phe Val Gly Leu Lys
      65           70           75           80

Pro Asn Asn Phe Leu Pro Tyr Val Val Met Gly Val Asp Leu Leu Phe
      85           90           95

Lys Asp Glu Ile His Lys Asn Thr Met Ile Ser Gly Gly Ile Gly Ile
      100          105          110

Gly Ala Asp Trp Ser Lys Gly Ser Pro Glu Lys Ser Asn Glu Lys Leu
      115          120          125

Glu Glu Glu Glu Glu Asn Glu Ala Gln Gln Val Ala Ser Leu Gln Asn
      130          135          140

Arg Ile Gly Val Val Ile Arg Leu Pro Leu Val Ile Glu Tyr Ser Phe
      145          150          155          160

Leu Lys Asn Ile Val Ile Gly Phe Lys Ala Val Ala Thr Ile Gly Thr
      165          170          175

Thr Met Leu Leu Gly Ser Pro Met Ser Phe Glu Gly Ala Arg Phe Asn
      180          185          190

Phe Leu Gly Thr Gly Phe Ile Lys Ile Tyr Ile
      195          200

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<210> 149  
 <211> 184  
 <212> PRT  
 <213> Homo sapiens

<400> 149

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Gln Ser Lys Ser Lys Ser Met Thr Glu Asp Asp Phe Asp Phe Asp Lys
 1           5           10           15

Leu Leu Ala Lys Glu Glu Ser Val Arg Arg Leu Phe Gly Ile Gly Phe
      20           25           30

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Gly Val Gly Tyr Pro Leu Ala Asn Ile Thr Ile Ser Val Pro Tyr Val  
35 40 45

Asp Ile Asp Leu Gly Tyr Gly Gly Phe Val Gly Leu Lys Pro Asn Asn  
50 55 60

Phe Leu Pro Tyr Val Val Met Gly Val Asp Leu Leu Phe Lys Asp Glu  
65 70 75 80

Ile His Lys Asn Thr Met Ile Ser Gly Gly Ile Gly Ile Gly Ala Asp  
85 90 95

Trp Ser Lys Gly Ser Pro Glu Lys Ser Asn Glu Lys Leu Glu Glu Glu  
100 105 110

Glu Glu Asn Glu Ala Gln Gln Val Ala Ser Leu Gln Asn Arg Ile Gly  
115 120 125

Val Val Ile Arg Leu Pro Leu Val Ile Glu Tyr Ser Phe Leu Lys Asn  
130 135 140

Ile Val Ile Gly Phe Lys Ala Val Ala Thr Ile Gly Thr Thr Met Leu  
145 150 155 160

Leu Gly Ser Pro Met Ser Phe Glu Gly Ala Arg Phe Asn Phe Leu Gly  
165 170 175

Thr Gly Phe Ile Lys Ile Tyr Ile  
180

<210> 150

<211> 612

<212> DNA

<213> Homo sapiens

<400> 150

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tccaaaagca aaagtatgac tgaagatgac tttgattttg ataaaacttct tgcaaaagaa 120  
gagtcctgtgc gccgttttatt tggcataggt tttggagttg gatatccact tgcaaàcatt 180  
acaatatctg ttccatatgt agacatagac cttgggtacg gaggattcgt agggcttaaa 240  
ccaacaatt tcttgcccta tgttgtgatg ggtgtagatc ttctatttaa agatgaaata 300  
cacaaaaaca ctatgatttc tggaggcatt ggaataggtg cagattggtc aaaaggaagt 360  
cctgaaaaat caaatgaaaa acttgaagaa gaggaagaaa atgaagcaca acaagtagct 420  
tctcttcaaa atagaatagg ggttgtgata agattgcctt tggtaataga gtacagcttt 480  
cttaaaaata ttgtgattgg atttaaagct gttgctacta ttggaacaac tatgctactt 540  
ggcagcccaa tgtcatttga aggagctaga ttttaatttct taggcacagg ctttataaaa 600  
atatatatat ag 612

<210> 151

<211> 555

<212> DNA

<213> Homo sapiens

<400> 151

caatccaaaa gcaaaagtat gactgaagat gacttttgatt ttgataaaact tcttgcaaaa 60  
gaagagtctg tgcgccgttt atttggcata ggttttggag ttggatatcc acttgcaaac 120  
attacaatat ctgttcata ttagacata gaccttgggt acggaggatt cgtagggctt 180  
aaacccaaca atttcttgcc ctatgttgtg atgggtgtag atcttctatt taaagatgaa 240

atacacaaaa acactatgat ttctggaggc attggaatag gtgcagattg gtcaaaaagga 300  
 agtcctgaaa aatcaaatga aaaacttgaa gaagaggaag aaaatgaagc acaacaagta 360  
 gcttctcttc aaaatagaat aggggttggtg ataagattgc ctttggtaat agagtacagc 420  
 tttcttaaaa atattgtgat tggatttaaa gctgttgcta ctattggaac aactatgcta 480  
 cttggcagcc caatgtcatt tgaaggagct agatttaatt tcttaggcac aggctttata 540  
 aaaatatata tatag 555

<210> 152

<211> 400

<212> PRT

<213> Homo sapiens

<400> 152

Met	Asn	Ile	Lys	Ile	Asn	Phe	Phe	Phe	Phe	Thr	Leu	Pro	Ile	Gly	Ile	Phe	1	5	10	15
Leu	Gly	Leu	Phe	Phe	Pro	Leu	Gly	Ile	Tyr	Ser	Ser	Leu	Ser	His	Ala		20	25	30	
Phe	Ile	Arg	Leu	Ser	Tyr	Leu	Ser	Leu	Ile	Pro	Phe	Leu	Ile	Phe	Ser		35	40	45	
Ile	Pro	Leu	Gly	Ile	Glu	Asn	Ile	Ile	Glu	Asn	Lys	Asn	Phe	Lys	Lys		50	55	60	
Leu	Phe	Gly	Lys	Thr	Ile	Tyr	Tyr	Gly	Ile	Leu	Thr	Asn	Leu	Ser	Gly		65	70	75	80
Val	Ala	Val	Ser	Ile	Ile	Ala	Ala	Thr	Ile	Tyr	Leu	Pro	Gln	Arg	Ile		85	90	95	
Pro	Ile	Leu	Glu	Lys	Thr	Ile	Gln	Asn	Thr	Cys	Phe	Phe	Glu	Lys	Glu		100	105	110	
Ala	Leu	Leu	Glu	Thr	Phe	Phe	Pro	Lys	Asn	Ile	Phe	Lys	Ile	Phe	Thr		115	120	125	
Ser	Ser	Asn	Pro	Asn	Leu	Leu	Ser	Ile	Tyr	Met	Ile	Ser	Ile	Ile	Ile		130	135	140	
Gly	Thr	Ser	Phe	Tyr	Tyr	Ala	Lys	Gln	Lys	Gly	Arg	Ile	Ala	Arg	Glu		145	150	155	160
Leu	Met	Leu	Ser	Ala	Ser	Asn	Leu	Phe	Tyr	His	Ala	Asn	Gly	Phe	Ile		165	170	175	
Val	Asn	Ile	Leu	Asn	Ile	Gly	Ile	Ile	Phe	Ile	Thr	Ala	Asn	Tyr	Ala		180	185	190	
Ala	Asn	Leu	Lys	Asn	Phe	Lys	Asp	Tyr	Pro	Asn	Tyr	Thr	Asn	Ser	Ile		195	200	205	
Thr	Phe	Phe	Leu	Ala	Trp	Thr	Ile	Ile	Ile	Leu	Phe	Val	Ile	Leu	Pro		210	215	220	
Thr	Ile	Ser	Tyr	Arg	Leu	Thr	Lys	Ser	Phe	Lys	Met	Ile	Tyr	Lys	Gly		225	230	235	240

Ile Phe Val Ser Phe Gln Asn Ile Ile Phe Ser Gly Leu Ala Lys Asp  
 245 250 255  
 Ser Tyr Ser Pro Tyr Val Ile Leu Ile Glu Asp Ile Lys Asn Glu Arg  
 260 265 270  
 Ile Asn Ile Lys Lys Ser Ile Ile Ile Asn Ile Pro Leu Ile Asn Phe  
 275 280 285  
 Val Ser Lys Phe Gly Thr Ile Phe Val Ser Val Ile Ser Phe Phe Ile  
 290 295 300  
 Ile Leu Lys Ser Tyr Ser Ser Leu Pro Ile Ser Ile Tyr Glu Ile Ser  
 305 310 315 320  
 Tyr Met Ser Thr Leu Ser Phe Val Phe Val Phe Ala Phe Pro His Ile  
 325 330 335  
 Pro Asn Ser Leu Ile Tyr Ile Ile Thr Met Leu Cys Ser Thr Tyr Thr  
 340 345 350  
 Lys Gly Ile Glu Leu Asn Val Ser Asn Ile Thr Pro Met Leu Pro Ile  
 355 360 365  
 Leu Ile Ser Leu Ala Leu Leu Ile Asp Phe Ala Phe Asn Ile Ala Ile  
 370 375 380  
 Ile His Ile Ile Asn Phe Lys Glu Leu Lys Asp Gln Glu Lys Ile Asn  
 385 390 395 400

<210> 153  
 <211> 348  
 <212> PRT  
 <213> Homo sapiens

<400> 153  
 Ile Glu Asn Ile Ile Glu Asn Lys Asn Phe Lys Lys Leu Phe Gly Lys  
 1 5 10 15  
 Thr Ile Tyr Tyr Gly Ile Leu Thr Asn Leu Ser Gly Val Ala Val Ser  
 20 25 30  
 Ile Ile Ala Ala Thr Ile Tyr Leu Pro Gln Arg Ile Pro Ile Leu Glu  
 35 40 45  
 Lys Thr Ile Gln Asn Thr Cys Phe Phe Glu Lys Glu Ala Leu Leu Glu  
 50 55 60  
 Thr Phe Phe Pro Lys Asn Ile Phe Lys Ile Phe Thr Ser Ser Asn Pro  
 65 70 75 80  
 Asn Leu Leu Ser Ile Tyr Met Ile Ser Ile Ile Ile Gly Thr Ser Phe  
 85 90 95  
 Tyr Tyr Ala Lys Gln Lys Gly Arg Ile Ala Arg Glu Leu Met Leu Ser

100	105	110
Ala Ser Asn Leu Phe Tyr His	Ala Asn Gly Phe Ile Val Asn Ile Leu	
115	120	125
Asn Ile Gly Ile Ile Phe Ile Thr Ala Asn Tyr Ala Ala Asn Leu Lys		
130	135	140
Asn Phe Lys Asp Tyr Pro Asn Tyr Thr Asn Ser Ile Thr Phe Phe Leu		
145	150	155
Ala Trp Thr Ile Ile Ile Leu Phe Val Ile Leu Pro Thr Ile Ser Tyr		
165	170	175
Arg Leu Thr Lys Ser Phe Lys Met Ile Tyr Lys Gly Ile Phe Val Ser		
180	185	190
Phe Gln Asn Ile Ile Phe Ser Gly Leu Ala Lys Asp Ser Tyr Ser Pro		
195	200	205
Tyr Val Ile Leu Ile Glu Asp Ile Lys Asn Glu Arg Ile Asn Ile Lys		
210	215	220
Lys Ser Ile Ile Ile Asn Ile Pro Leu Ile Asn Phe Val Ser Lys Phe		
225	230	235
Gly Thr Ile Phe Val Ser Val Ile Ser Phe Phe Ile Ile Leu Lys Ser		
245	250	255
Tyr Ser Ser Leu Pro Ile Ser Ile Tyr Glu Ile Ser Tyr Met Ser Thr		
260	265	270
Leu Ser Phe Val Phe Val Phe Ala Phe Pro His Ile Pro Asn Ser Leu		
275	280	285
Ile Tyr Ile Ile Thr Met Leu Cys Ser Thr Tyr Thr Lys Gly Ile Glu		
290	295	300
Leu Asn Val Ser Asn Ile Thr Pro Met Leu Pro Ile Leu Ile Ser Leu		
305	310	315
Ala Leu Leu Ile Asp Phe Ala Phe Asn Ile Ala Ile Ile His Ile Ile		
325	330	335
Asn Phe Lys Glu Leu Lys Asp Gln Glu Lys Ile Asn		
340	345	

&lt;210&gt; 154

&lt;211&gt; 1203

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 154

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atgaatataa aaatcaattt ttttttcact ttgcctattg gaatcttttt aggattgttt 60
ttccctcttg gaatttatag ctcccttatca catgctttta taagattatc atacttatct 120
cttattccct ttttaattt ttcaattcca ttaggaattg aaaatattat tgaaaaataaa 180
aacttttaaaa agcttttttg taaaacaatt tattatggaa ttttaactaa cctatctgga 240
gttgctgtat caataatagc tgcaacaata tatcttcgc aaagaattcc aatactagaa 300

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aaaacaatac aaaatacatg tttttttgaa aaagaagctt tactagaaac attctttcca 360
aaaaatattt tcaaaatatt tacatctagc aatccaaatc tactaagcat ttacatgatt 420
tcaataataa taggcacaag ttttttattat gcaaaacaaa aaggcagaat agctagagaa 480
ctgatgctaa gcgcattccaa tctttttttac catgcaaattg gggtttattgt aaacatatta 540
aatataggga tcattttttat aacagcaaatt tacgtgcaa acttaaaaaa cttcaaagat 600
tacccaaatt atacaaacag cataacattc tttttggcat ggacaattat aattttattc 660
gtaatattgc caacaattag ttatagatta acaaaaagtt ttaaaatgat atataaaggc 720
atttttgtat catttcaaaa cataatattt tcaggacttg caaaagattc ttattcccct 780
tatgtgatat taatagaaga tattaaaaaa gaaagaataa atataaaaaa atccataatt 840
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aacataacac caatgctgcc gatattaatc tctttggctt tactaatcga ctttgctttt 1140
aacattgcaa tcattcatat aataaaacttc aaagaattaa aagatcaaga aaaaattaat 1200
taa 1203

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&lt;210&gt; 155

&lt;211&gt; 1047

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 155

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attgaaaata ttattgaaaa taaaaacttt aaaaagcttt ttggtaaaaa aattttattat 60
ggaattttta ctaacctatc tggagttgct gtatcaataa tagctgcaac aatatatctt 120
ccgcaaagaa ttccaatact agaaaaaaca atacaaaata catgtttttt tgaaaaagaa 180
gctttactag aaacattctt tccaaaaaat attttcaaaa tatttacatc tagcaatcca 240
aatctactaa gcattttacat gatttcaata ataattaggca caagttttta ttatgcaaaa 300
caaaaaggca gaattagctag agaactgatg ctaagcgcat ccaatctttt ttaccatgca 360
aatgggttta ttgtaaacat attaaatata gggatcattt ttataacagc aaattacgct 420
gcaaacttaa aaaacttcaa agattaccca aattatacaa acagcataac attctttttg 480
gcatggacaa ttataatttt attcgtaata ttgccaacaa ttagttatag attaacaaaa 540
agtttttaaa tgatatataa aggcattttt gtatcatttc aaaacataat attttcagga 600
cttgcaaaag attcttattc cctttatgtg atattaatag aagatattaa aaacgaaaga 660
ataaatataa aaaaatccat aattataaac atacctttta taaattttgt atctaaattt 720
ggcactattt ttgtttcagt aatatcattt tttataattt taaaatcata ttctagctta 780
cccatttcta tttatgaaat aagctatatg agcattttat catttgtttt tgtctttgca 840
tttcctcata taccaaatag tttaattttat ataattacaa tgctttgctc tacatatata 900
aaaggaatag agctaaatgt ttcaaacata acaccaatgc tgccgatatt aatctctttg 960
gctttactaa tcgactttgc ttttaacatt gcaatcattc atataataaa cttcaaagaa 1020
ttaaaagatc aagaaaaaat taattaa 1047

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&lt;210&gt; 156

&lt;211&gt; 219

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 156

```

Met Lys Lys Glu Phe Ile Met Leu Leu Leu Leu Leu Gln Thr Ile Met
  1                      5                      10                      15

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Asn Leu Asn Ser Ile Asn Thr Asn Thr Ser Thr Ser Ile Val Lys Glu
      20                      25                      30

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Leu Gln Lys Asn Leu Tyr Ile Phe Asn Ser Lys Glu Tyr Gln Lys Asp
      35                      40                      45

```

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Lys Asp Thr Leu Asn Glu Phe Ile Asn Ser Ile Asn Ile Asn Asp Lys

```

50                      55                      60  
 Glu Ile Leu Gln Ser Leu Glu Lys Ile Lys Asn Glu Leu Phe Ile Ile  
 65                      70                      75                      80  
 Ser Val Phe Phe Asn Asn Lys Lys Gly Ile Leu Ile Ala Leu Asn Leu  
 85                      90                      95  
 Gly Ala Glu Ile Asn Phe Lys Tyr Lys Ile Ser Pro Ile Ser Ile Ser  
 100                      105                      110  
 Ile Ile Asn Asn Glu Phe Glu Ile Thr Lys Ile Leu Ile Asp Tyr Gly  
 115                      120                      125  
 Ile Ser Leu Asn Gln Ile Asp Asp Thr Gly Tyr Ser Pro Ile Phe Trp  
 130                      135                      140  
 Ala Ile Tyr Thr Asn Asn Glu Lys Ile Phe Glu Phe Leu Lys Glu Ser  
 145                      150                      155                      160  
 Gly Ala Asp Leu Ser Phe Thr Leu Lys Asn Arg Lys Thr Pro Met Gln  
 165                      170                      175  
 Ala Ala Ile Glu Thr Glu Asn Ile Lys Leu Ile Lys Ser Leu Glu Lys  
 180                      185                      190  
 Lys Lys Ile Tyr Ile Asp Asp Asn Phe Lys Lys Lys Leu Lys Lys Leu  
 195                      200                      205  
 Lys Asn Lys Glu Ile Val Arg Ile Leu Val Lys  
 210                      215  
 <210> 157  
 <211> 201  
 <212> PRT  
 <213> Homo sapiens  
 <400> 157  
 Asn Ser Ile Asn Thr Asn Thr Ser Thr Ser Ile Val Lys Glu Leu Gln  
 1                      5                      10                      15  
 Lys Asn Leu Tyr Ile Phe Asn Ser Lys Glu Tyr Gln Lys Asp Lys Asp  
 20                      25                      30  
 Thr Leu Asn Glu Phe Ile Asn Ser Ile Asn Ile Asn Asp Lys Glu Ile  
 35                      40                      45  
 Leu Gln Ser Leu Glu Lys Ile Lys Asn Glu Leu Phe Ile Ile Ser Val  
 50                      55                      60  
 Phe Phe Asn Asn Lys Lys Gly Ile Leu Ile Ala Leu Asn Leu Gly Ala  
 65                      70                      75                      80  
 Glu Ile Asn Phe Lys Tyr Lys Ile Ser Pro Ile Ser Ile Ser Ile Ile  
 85                      90                      95  
 Asn Asn Glu Phe Glu Ile Thr Lys Ile Leu Ile Asp Tyr Gly Ile Ser  
 100                      105                      110



Leu Asn Gln Ile Asp Asp Thr Gly Tyr Ser Pro Ile Phe Trp Ala Ile  
 115 120 125

Tyr Thr Asn Asn Glu Lys Ile Phe Glu Phe Leu Lys Glu Ser Gly Ala  
 130 135 140

Asp Leu Ser Phe Thr Leu Lys Asn Arg Lys Thr Pro Met Gln Ala Ala  
 145 150 155 160

Ile Glu Thr Glu Asn Ile Lys Leu Ile Lys Ser Leu Glu Lys Lys Lys  
 165 170 175

Ile Tyr Ile Asp Asp Asn Phe Lys Lys Lys Leu Lys Lys Leu Lys Asn  
 180 185 190

Lys Glu Ile Val Arg Ile Leu Val Lys  
 195 200

<210> 158

<211> 660

<212> DNA

<213> Homo sapiens

<400> 158

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 aatagcaaag aatatcaaaa agataaagac actttaaatg aattttataaa ttcaataaaat 180  
 ataaatgaca aagaaatctt acaaagttta gaaaaaatca aaaatgagct ttttataata 240  
 tctgtttttt tcaacaataa aaaagggatt ttaattgcac taaatcttgg agcagaaata 300  
 aacttttaaat ataaaatatt tccaattttca atttcaataa taaacaatga atttgaaatc 360  
 acaaaaaatat tgatagatta cggaataagc cttaatcaaa tagatgatac aggttattct 420  
 ccaatatattt gggcaatata tactaataac gaaaaaatat ttgaattttt aaaagaaagc 480  
 ggagctgatt taagtctcac acttaaaaat agaaaaaacac caatgcaagc cgcaatagaa 540  
 acagaaaata taaaactaat taaatctctg gaaaagaaaa aaattttacat tgacgacaat 600  
 ttcaaaaaaa aacttaaaaa gcttaaaaac aaagaaatag ttcgaatttt agtaaaatag 660

<210> 159

<211> 606

<212> DNA

<213> Homo sapiens

<400> 159

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 ataaatataa atgacaaaga aatcttataa agtttagaaa aaatcaaaaa tgagcttttt 180  
 ataataatctg tttttttcaa caataaaaaa gggattttta ttgcactaaa tcttgaggca 240  
 gaaataaaact ttaaatataa aatatctcca atttcaattt caataataaa caatgaattt 300  
 gaaatcacaa aaatattgat agattacgga ataagcctta atcaaataga tgatacaggt 360  
 tattctccaa tattttgggc aatatatact aataacgaaa aaatatttga atttttaaaa 420  
 gaaagcggag ctgatttaag tttcacactt aaaaatagaa aaacaccaat gcaagccgca 480  
 atagaaaacag aaaatataaa actaattaaa tctctggaaa agaaaaaaat ttacattgac 540  
 gacaatttca aaaaaaaact taaaaagctt aaaaacaaag aaatagttcg aatttttagta 600  
 aaatag 606

<210> 160

<211> 178

<212> PRT

<213> Homo sapiens

<400> 160

Met Thr Lys Asn Arg Ile Ile Trp Leu Leu Val Leu Met Val Ser Ser  
1 5 10 15

Thr Phe Thr Ala Thr Ile Ile Ser Asn Tyr Gln Asn Leu Met Leu Ser  
20 25 30

Leu Val Val Leu Ala Asn Phe Ile Pro Leu Leu Met Asp Thr Ser Gly  
35 40 45

Asn Ala Gly Ser Gln Ala Ser Ala Leu Ile Ile Arg Glu Leu Ala Leu  
50 55 60

Gly Thr Val Lys Val Lys Asp Phe Phe Lys Val Phe Leu Lys Glu Ile  
65 70 75 80

Cys Val Ser Ile Leu Val Gly Ala Ile Leu Ala Ser Val Asn Phe Leu  
85 90 95

Arg Ile Val Phe Phe Val Ala Pro His His Ser Asp Lys Leu Lys Ile  
100 105 110

Ala Phe Val Val Ser Ser Cys Leu Met Val Ser Leu Thr Val Ala Lys  
115 120 125

Ile Leu Gly Gly Leu Leu Pro Ile Val Ala Lys Leu Leu Lys Leu Asp  
130 135 140

Pro Ala Leu Met Ala Gly Pro Leu Ile Thr Thr Ile Ala Asp Ala Ile  
145 150 155 160

Thr Leu Ile Ala Tyr Phe Asn Ile Ala Lys Trp Val Leu Val Ser Tyr  
165 170 175

Ala Val

<210> 161

<211> 163

<212> PRT

<213> Homo sapiens

<400> 161

Ser Thr Phe Thr Ala Thr Ile Ile Ser Asn Tyr Gln Asn Leu Met Leu  
1 5 10 15

Ser Leu Val Val Leu Ala Asn Phe Ile Pro Leu Leu Met Asp Thr Ser  
20 25 30

Gly Asn Ala Gly Ser Gln Ala Ser Ala Leu Ile Ile Arg Glu Leu Ala  
35 40 45

Leu Gly Thr Val Lys Val Lys Asp Phe Phe Lys Val Phe Leu Lys Glu  
50 55 60

Ile Cys Val Ser Ile Leu Val Gly Ala Ile Leu Ala Ser Val Asn Phe

[illegible]

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<210> 162
<211> 537
<212> DNA
<213> Homo sapiens
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<400> 162					
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cgcctttttaa	tggatacttc	aggcaattgcc	ggctcttcagg	catctgcgt	taataattcgt 180
gagcttgctc	ttggtactgt	caaggtaaaa	gattttttta	aagtgttttt	aaaggaaata 240
tgtgttagca	ttctagtggg	agcaattctt	gctagtgtta	attttttaag	aattgtcttt 300
tttgtagctc	cacaccattc	tgataagctg	aaaatagctt	ttgtagtctc	atcttgcttg 360
atggtaagtt	tgacagtagc	aaagatatgg	ggaggctctt	taccattgt	tgctaacctt 420
ttaaatttgg	atccagcact	tatggcaggc	cctttaatca	ctacaattgc	agatgctatt 480
cttaataatag	cttattttta	tatagcaaaa	tgggttttag	ttagctatgc	tgtttaa 537

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<210> 163
<211> 492
<212> DNA
<213> Homo sapiens
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<400> 163						
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gcgctaataa	ttcgtgagct	tgctcttggg	actgtcaagg	taaaagattt	ttttaaagtg	180
tttttaaagg	aaatatgtgt	tagcattcta	gtgggagcaa	ttcttgctag	tgttaatttt	240
ttaagaattg	tcttttttgt	agctccacac	cattctgata	agctgaaaat	agcttttgta	300
gtttcatctt	gcttgatggt	aagtttgaca	gtagcaaaga	tattgggagg	tcttttacc	360
attgttgcta	aactttttaa	gttggatcca	gcacttatgg	caggcccttt	aatcactaca	420
attgcagatg	ctattacttt	aatagcttat	tttaatatag	caaaatgggt	tttagtttagc	480
tattgctgttt	aa					492

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<210> 164
<211> 178
<212> PRT
<213> Homo sapiens
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<400> 164

Met Thr Lys Asn Arg Ile Ile Trp Leu Leu Val Leu Met Val Ser Ser  
 1 5 10 15  
 Thr Phe Thr Ala Thr Ile Ile Ser Asn Tyr Gln Asn Leu Met Leu Ser  
 20 25 30  
 Leu Val Val Leu Ala Asn Phe Ile Pro Leu Leu Met Asp Thr Ser Gly  
 35 40 45  
 Asn Ala Gly Ser Gln Ala Ser Ala Leu Ile Ile Arg Glu Leu Ala Leu  
 50 55 60  
 Gly Thr Val Lys Val Lys Asp Phe Phe Lys Val Phe Leu Lys Glu Ile  
 65 70 75 80  
 Cys Val Ser Ile Leu Val Gly Ala Ile Leu Ala Ser Val Asn Phe Leu  
 85 90 95  
 Arg Ile Val Phe Phe Val Ala Pro His His Ser Asp Lys Leu Lys Ile  
 100 105 110  
 Ala Phe Val Val Ser Ser Cys Leu Met Val Ser Leu Thr Val Ala Lys  
 115 120 125  
 Ile Leu Gly Gly Leu Leu Pro Ile Val Ala Lys Leu Leu Lys Leu Asp  
 130 135 140  
 Pro Ala Leu Met Ala Gly Pro Leu Ile Thr Thr Ile Ala Asp Ala Ile  
 145 150 155 160  
 Thr Leu Ile Ala Tyr Phe Asn Ile Ala Lys Trp Val Leu Val Ser Tyr  
 165 170 175  
 Ala Val

<210> 165  
 <211> 128  
 <212> PRT  
 <213> Homo sapiens

<400> 165  
 Gly Ser Gln Ala Ser Ala Leu Ile Ile Arg Glu Leu Ala Leu Gly Thr  
 1 5 10 15  
 Val Lys Val Lys Asp Phe Phe Lys Val Phe Leu Lys Glu Ile Cys Val  
 20 25 30  
 Ser Ile Leu Val Gly Ala Ile Leu Ala Ser Val Asn Phe Leu Arg Ile  
 35 40 45  
 Val Phe Phe Val Ala Pro His His Ser Asp Lys Leu Lys Ile Ala Phe  
 50 55 60  
 Val Val Ser Ser Cys Leu Met Val Ser Leu Thr Val Ala Lys Ile Leu  
 65 70 75 80  
 Gly Gly Leu Leu Pro Ile Val Ala Lys Leu Leu Lys Leu Asp Pro Ala

85

90

95

Leu Met Ala Gly Pro Leu Ile Thr Thr Ile Ala Asp Ala Ile Thr Leu  
 100 105 110

Ile Ala Tyr Phe Asn Ile Ala Lys Trp Val Leu Val Ser Tyr Ala Val  
 115 120 125

&lt;210&gt; 166

&lt;211&gt; 537

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 166

atgacaaaaa atagaataat ttggcttttta gttctttatgg tgtctttctac ttttacagct 60  
 acaattatatt caaattatca aaattttaatg ttgtcttttag tggtttttagc taatttttatt 120  
 ccccttttttaa tggatacttc aggcaatgcc ggctctcagg catctgcgct aataattcgt 180  
 gagcttgctc ttggtactgt caaggtaaaa gattttttta aagtgttttt aaaggaaata 240  
 tgtgttagca ttctagtggg agcaattctt gctagtgtta attttttaag aattgtcttt 300  
 tttgtagctc cacaccattc tgataagctg aaaatagctt ttgtagtttc atcttgcttg 360  
 atggtaagtt tgacagtagc aaagatattg ggaggtcttt taccattgt tgctaaactt 420  
 ttaaagttgg atccagcact tatggcaggc cctttaatca ctacaattgc agatgctatt 480  
 actttaatag cttattttta tatagcaaaa tgggttttag ttagctatgc tgtttaa 537

&lt;210&gt; 167

&lt;211&gt; 387

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 167

ggctctcagg catctgcgct aataattcgt gagcttgctc ttggtactgt caaggtaaaa 60  
 gattttttta aagtgttttt aaaggaaata tgtgttagca ttctagtggg agcaattctt 120  
 gctagtgtta attttttaag aattgtcttt tttgtagctc cacaccattc tgataagctg 180  
 aaaatagctt ttgtagtttc atcttgcttg atggtaagtt tgacagtagc aaagatattg 240  
 ggaggtcttt taccattgt tgctaaactt ttaaagttgg atccagcact tatggcaggc 300  
 cctttaatca ctacaattgc agatgctatt actttaatag cttattttta tatagcaaaa 360  
 tgggttttag ttagctatgc tgtttaa 387

&lt;210&gt; 168

&lt;211&gt; 373

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 168

Met Arg Ile Lys Asn Leu Ile Leu Ile Ala Ile Leu Leu Ile Ser Pro  
 1 5 10 15

Ser Cys Ser Thr Asn Lys Asn Ile Val Val Leu Thr Asp Asn Lys Thr  
 20 25 30

Ile Pro Phe Tyr Ile Asn Gln Phe Asn Ile Glu Asn Lys Ala Asn Phe  
 35 40 45

Ile Ile Lys Phe Arg Asn Asn Ile Asp Leu Gln Thr Ile Glu Lys Glu  
 50 55 60

Asn	Ala	Gln	Ile	Ile	Ile	Ser	Lys	Asn	Ile	Gly	Asn	Thr	Asn	Ile	Ala	65	70	75	80
Asn	His	Phe	Lys	Ser	Val	Lys	Ile	Asn	Tyr	Asn	Pro	Asp	Tyr	Pro	Ile	85	90	95	
Leu	Lys	His	Ile	Phe	Lys	Gln	Phe	Asn	Tyr	Lys	Ile	Ile	Pro	Leu	Gly	100	105	110	
Phe	Asp	Ile	Pro	Ile	Leu	Ile	Tyr	Lys	Asn	Thr	His	His	Ile	Lys	Lys	115	120	125	
Tyr	Ile	Asn	Thr	Lys	Tyr	Leu	Lys	Glu	Glu	Tyr	Glu	Asn	Phe	Ile	Lys	130	135	140	
Asp	Gly	Lys	Phe	Phe	Ile	Ser	Pro	Tyr	Val	Ser	Glu	Asn	Leu	Phe	Tyr	145	150	155	160
Val	Ile	Ser	Gln	Ile	Asn	Asn	Val	Arg	Phe	Ser	Phe	Glu	Lys	Asn	Lys	165	170		175
Leu	Asn	Tyr	Asn	Glu	Asn	Gln	Ile	Leu	Lys	Met	Leu	Glu	Tyr	Phe	Ser	180	185		190
Ser	Phe	Leu	Asn	Thr	Lys	Gln	Met	Asp	Leu	Gln	Lys	Asp	Phe	Phe	Asn	195	200	205	
Lys	Tyr	Gly	Tyr	Leu	Lys	Leu	Asn	Lys	Ile	Leu	Leu	Asn	Lys	Lys	Ser	210	215	220	
Leu	Leu	Ile	Ala	Gly	Leu	Ser	Asp	Ile	Thr	Phe	Tyr	Asn	Ser	Leu	Ser	225	230	235	240
Glu	Gln	Glu	Lys	Ser	Gln	Ile	Lys	Phe	Ser	Tyr	Leu	Ile	Asn	Asp	Asn	245	250		255
Asn	Glu	Ile	Val	Ile	Ser	Asn	Pro	Asn	Phe	Ile	Gly	Ile	Leu	Glu	Thr	260	265		270
Ser	Val	Leu	Thr	Lys	Lys	Phe	Ile	Asn	Trp	Ile	Leu	Tyr	Lys	Lys	Thr	275	280	285	
Gln	Lys	Thr	Leu	Ile	Gly	Phe	Asn	Asn	Gln	Ser	Gln	Ser	Asn	Ile	Cys	290	295	300	
Phe	Gly	Phe	Ala	Asn	Gly	Phe	Thr	Pro	Tyr	Lys	Glu	Leu	Asn	Leu	Lys	305	310	315	320
Ile	Lys	His	Ser	Ile	Asp	Gly	Ile	Ser	Pro	Phe	Ile	Ile	Asp	Glu	Thr	325	330		335
Gln	Ile	Asn	Ser	His	Ser	Tyr	Val	Leu	Ser	Lys	Lys	Thr	Ile	Glu	Lys	340	345		350
Glu	Asn	Leu	Leu	Ile	Asn	Glu	Trp	Phe	Phe	Ser	Lys	Ala	Asn	Asn	Leu	355	360	365	

Lys Lys Asn Lys Asn  
370

<210> 169

<211> 353

<212> PRT

<213> Homo sapiens

<400> 169

Asn Lys Asn Ile Val Val Leu Thr Asp Asn Lys Thr Ile Pro Phe Tyr  
1 5 10 15

Ile Asn Gln Phe Asn Ile Glu Asn Lys Ala Asn Phe Ile Ile Lys Phe  
20 25 30

Arg Asn Asn Ile Asp Leu Gln Thr Ile Glu Lys Glu Asn Ala Gln Ile  
35 40 45

Ile Ile Ser Lys Asn Ile Gly Asn Thr Asn Ile Ala Asn His Phe Lys  
50 55 60

Ser Val Lys Ile Asn Tyr Asn Pro Asp Tyr Pro Ile Leu Lys His Ile  
65 70 75 80

Phe Lys Gln Phe Asn Tyr Lys Ile Ile Pro Leu Gly Phe Asp Ile Pro  
85 90 95

Ile Leu Ile Tyr Lys Asn Thr His His Ile Lys Lys Tyr Ile Asn Thr  
100 105 110

Lys Tyr Leu Lys Glu Glu Tyr Glu Asn Phe Ile Lys Asp Gly Lys Phe  
115 120 125

Phe Ile Ser Pro Tyr Val Ser Glu Asn Leu Phe Tyr Val Ile Ser Gln  
130 135 140

Ile Asn Asn Val Arg Phe Ser Phe Glu Lys Asn Lys Leu Asn Tyr Asn  
145 150 155 160

Glu Asn Gln Ile Leu Lys Met Leu Glu Tyr Phe Ser Ser Phe Leu Asn  
165 170 175

Thr Lys Gln Met Asp Leu Gln Lys Asp Phe Phe Asn Lys Tyr Gly Tyr  
180 185 190

Leu Lys Leu Asn Lys Ile Leu Leu Asn Lys Lys Ser Leu Leu Ile Ala  
195 200 205

Gly Leu Ser Asp Ile Thr Phe Tyr Asn Ser Leu Ser Glu Gln Glu Lys  
210 215 220

Ser Gln Ile Lys Phe Ser Tyr Leu Ile Asn Asp Asn Asn Glu Ile Val  
225 230 235 240

Ile Ser Asn Pro Asn Phe Ile Gly Ile Leu Glu Thr Ser Val Leu Thr  
245 250 255

Lys Lys Phe Ile Asn Trp Ile Leu Tyr Lys Lys Thr Gln Lys Thr Leu

260 265 270

Ile Gly Phe Asn Asn Gln Ser Gln Ser Asn Ile Cys Phe Gly Phe Ala  
 275 280 285

Asn Gly Phe Thr Pro Tyr Lys Glu Leu Asn Leu Lys Ile Lys His Ser  
 290 295 300

Ile Asp Gly Ile Ser Pro Phe Ile Ile Asp Glu Thr Gln Ile Asn Ser  
 305 310 315 320

His Ser Tyr Val Leu Ser Lys Lys Thr Ile Glu Lys Glu Asn Leu Leu  
 325 330 335

Ile Asn Glu Trp Phe Phe Ser Lys Ala Asn Asn Leu Lys Lys Asn Lys  
 340 345 350

Asn

<210> 170  
 <211> 1122  
 <212> DNA  
 <213> Homo sapiens

<400> 170

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aatatagaaa	ataaagcaaa	ttttataatt	aagtttagaa	ataatattga	tctgcaaaca	180
atagaaaaag	aaaatgcaca	aataattatt	tctaaaaaca	ttggtaacac	aaatattgct	240
aaccatttta	aatctgtaaa	aatcaattat	aatccagatt	atcctatctt	aaagcatatt	300
ttcaagcaat	ttaactacaa	aattattcca	ttgggctttg	acattcctat	tttaattctat	360
aaaaatacac	atcatattaa	aaaatacata	aacactaaat	atctaaaaga	agaatacga	420
aatttcatta	aagatggaaa	attttttata	tcgccttatg	tttctgaaaa	tttattttat	480
gtgattttct	aaataaataa	tgtgagattt	tcttttgaaa	aaaataaatt	aaattataat	540
gagaatcaaa	ttttaaaaat	gctagaatat	ttctcatcat	ttttaaatac	aaaacaaatg	600
gacttgcaaa	aagatttctt	taataaatac	ggctaccta	agttaaataa	aatattgctt	660
aataaaaaat	ctctttttaat	agcaggattg	agcgatataa	ccttctacaa	tagcttaagc	720
gaacaagaga	agtcacaaat	aaaatttttc	tatttaataa	acgataacaa	tgaaattggt	780
atctcaaacc	caaattttat	tggcatttta	gaaacatctg	ttttaactaa	aaaattttatc	840
aactggatat	tgtataaaaa	aactcaaaaa	accctaattg	gatttaacaa	tcaatcccaa	900
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ataaaacatt	caattgatgg	aatatctcct	tttattattg	acgaaactca	aatcaatagc	1020
cattcctatg	tattaagcaa	aaaaacaatt	gaaaaagaaa	acttactaat	aaatgaatgg	1080
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<210> 171  
 <211> 1062  
 <212> DNA  
 <213> Homo sapiens

<400> 171

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atagaaaaag	aaaatgcaca	aataattatt	tctaaaaaca	ttggtaacac	aaatattgct	180
aaccatttta	aatctgtaaa	aatcaattat	aatccagatt	atcctatctt	aaagcatatt	240
ttcaagcaat	ttaactacaa	aattattcca	ttgggctttg	acattcctat	tttaattctat	300
aaaaatacac	atcatattaa	aaaatacata	aacactaaat	atctaaaaga	agaatacga	360



```

aatttcatta aagatggaaa attttttata tgcgccttatg tttctgaaaa tttattttat 420
gtgattttctc aaataaataa tgtgagattt tcttttgaaa aaaataaatt aaattataat 480
gagaatcaaaa ttttaaaaat gctagaatat ttctcatcat ttttaaatatc aaaacaaatg 540
gacttgcaaaa aagattttctt taataaatac ggctacctaag agttaaataa aatattgctt 600
aataaaaaaat ctctttttaa agcaggattg agcgatataa ccttctacaa tagcttaagc 660
gaacaagaga agtcacaaat aaaattttcc tatttaataa acgataacaa tgaaattggt 720
atctcaaacc caaatttttat tggcattttta gaaacatctg ttttaactaa aaaattttatc 780
aactggatat tgtataaaaa aactcaaaaa accctaattg gatttaacaa tcaatcccaa 840
tcaaataatat gttttggatt tgccaatggt ttaccacctt acaaagaatt aaatttaaaa 900
ataaaacatt caattgatgg aatatctcct tttattattg acgaaactca aatcaatagc 960
cattcctatg tattaagcaa aaaaacaatt gaaaaagaaa acttactaat aaatgaatgg 1020
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<210> 172

<211> 216

<212> PRT

<213> Homo sapiens

<400> 172

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Met Ile Lys Thr Ile Leu Leu Leu Val Leu Tyr Pro Val Val Val Phe
  1             5             10             15

```

```

Ser Gln Ile Ser Ala Asn Gln Tyr Phe Glu Gly Ile Tyr Ala Lys Tyr
      20             25             30

```

```

Gln Asn Ile Glu Asp Met Gln Ala Thr Ile Asn Phe Thr Leu Lys Gly
      35             40             45

```

```

Leu Lys Gln Thr Gly Val Leu Leu Tyr Lys Phe Pro Asp Lys Phe Ile
      50             55             60

```

```

Ile Asn Leu Asp Ser Asn Asn Gln Val Phe Val Ser Asp Gly Glu Phe
      65             70             75             80

```

```

Leu Thr Val Tyr Val Pro Ser Leu Gly Thr Ser Phe Asn Gln Gln Leu
      85             90             95

```

```

Leu Lys Gly Ser Ser Gly Gly Gly Leu Met Lys Val Leu Asn Ser Glu
      100            105            110

```

```

Tyr Ser Val Ser Tyr Thr Asn Ser Pro Asn Leu Glu Asp Leu Asp Ser
      115            120            125

```

```

Ser Glu Pro Gly Lys Tyr Ile Lys Leu Thr Phe Ser Arg Lys Leu Tyr
      130            135            140

```

```

Lys Gly Ala Ala Thr Ile Asn Ser Phe Ile Ile Ala Phe Ala Pro Asp
      145            150            155            160

```

```

Gly Ile Ile Arg Arg Ile Thr Ala Phe Pro Thr Ser Gly Gly Arg Glu
      165            170            175

```

```

Ile Val Ile Asp Leu Thr Ala Val Lys Phe Asn Val Gly Ile Leu Asp
      180            185            190

```

```

Ser Lys Phe Lys Tyr Asp Pro Pro Lys Ser Ser Asn Lys Val Asp Asn
      195            200            205

```

Phe Leu Tyr Asp Ile Lys Lys Asn  
210 215

<210> 173  
<211> 199  
<212> PRT  
<213> Homo sapiens

<400> 173  
Gln Ile Ser Ala Asn Gln Tyr Phe Glu Gly Ile Tyr Ala Lys Tyr Gln  
1 5 10 15

Asn Ile Glu Asp Met Gln Ala Thr Ile Asn Phe Thr Leu Lys Gly Leu  
20 25 30

Lys Gln Thr Gly Val Leu Leu Tyr Lys Phe Pro Asp Lys Phe Ile Ile  
35 40 45

Asn Leu Asp Ser Asn Asn Gln Val Phe Val Ser Asp Gly Glu Phe Leu  
50 55 60

Thr Val Tyr Val Pro Ser Leu Gly Thr Ser Phe Asn Gln Gln Leu Leu  
65 70 75 80

Lys Gly Ser Ser Gly Gly Gly Leu Met Lys Val Leu Asn Ser Glu Tyr  
85 90 95

Ser Val Ser Tyr Thr Asn Ser Pro Asn Leu Glu Asp Leu Asp Ser Ser  
100 105 110

Glu Pro Gly Lys Tyr Ile Lys Leu Thr Phe Ser Arg Lys Leu Tyr Lys  
115 120 125

Gly Ala Ala Thr Ile Asn Ser Phe Ile Ile Ala Phe Ala Pro Asp Gly  
130 135 140

Ile Ile Arg Arg Ile Thr Ala Phe Pro Thr Ser Gly Gly Arg Glu Ile  
145 150 155 160

Val Ile Asp Leu Thr Ala Val Lys Phe Asn Val Gly Ile Leu Asp Ser  
165 170 175

Lys Phe Lys Tyr Asp Pro Pro Lys Ser Ser Asn Lys Val Asp Asn Phe  
180 185 190

Leu Tyr Asp Ile Lys Lys Asn  
195

<210> 174  
<211> 651  
<212> DNA  
<213> Homo sapiens

<400> 174  
atgataaaaa caatactttt attagttttg taccctgttg ttgtgttttc tcaaatactt 60  
gcaaataaat attttgaagg aatttatgct aaatatcaaa atatagagga catgcaagca 120  
acaattaatt ttacttttaa ggggttaaag caaacagggtg ttttgcttta taagtttcca 180  
gacaagttta ttatcaattt agattcaaat aatcaagttt ttgtaagtga tgggtgaattt 240

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ttgacagttt atgttccatc tcttgggact tcttttaatc agcaattatt aaagggtagt 300
agtgggggag gtcttatgaa agttttaaat agtgagtata gcgtatctta taccaattct 360
ccaaatttag aagatctcga ttcactctgag cctggaaaaat atattaaatt aaccttttct 420
agaaaagcttt acaagggggc tgctactatt aattctttta ttattgcttt tgctccggat 480
ggaataatta gaagaattac tgcttttcct actagtgggtg ggcgcgaaat agttattgat 540
ttgactgctg tgaagtttaa tgttgggaatt cttgatagca aatttaaata tgatcctcca 600
aaatcttcaa ataaggtaga taatttttta tatgatatta aaaaaaatta a 651

```

<210> 175

<211> 600

<212> DNA

<213> Homo sapiens

<400> 175

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caaatactctg caaatcaata ttttgaagga atttatgcta aatatcaaaa tatagaggac 60
atgcaagcaa caattaattt tacttttaaag ggggttaaagc aaacaggtgt ttgctttat 120
aagtttccag acaagtttat tatcaattta gattcaaaata atcaagtttt tgtaagtgat 180
ggtgaatttt tgacagttta tgttccatct cttgggactt cttttaatca gcaattatta 240
aagggtagta gtgggggagg tcttatgaaa gttttaaata gtgagtatag cgtatcttat 300
accaattctc caaatttaga agatctcgat tcactctgagc ctggaaaata tattaaatta 360
accttttcta gaaagcttta caagggggct gctactatta attcttttat tattgctttt 420
gctccggatg gaataattag aagaattact gcttttccta ctagtgggtg gcgcgaaata 480
gttattgatt tgactgctgt gaagtttaat gttggaattc ttgatagcaa atttaaatat 540
gatcctccaa aatcttcaaa taaggtagat aattttttat atgatattaa aaaaaattaa 600

```

<210> 176

<211> 251

<212> PRT

<213> Homo sapiens

<400> 176

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Met Lys Glu Arg Cys Leu Tyr Leu Leu Val Phe Val Ala Leu Cys Val
  1              5              10              15

Asn Asn Leu Phe Ser Asp Asp Tyr Leu Ile Tyr Asp Phe Asp Leu Ser
      20              25              30

Leu Asn Glu Phe Leu Glu Val Ser Thr Arg Lys Asp Asn Leu Glu Pro
      35              40              45

Met Val Asp Ser Asn Arg Ile Leu Leu Phe Tyr Pro Pro Lys Lys Glu
      50              55              60

Ile Arg Lys Ile Phe Ala Ala Phe Asp Phe Asp Gln Tyr Ser Lys Lys
      65              70              75              80

Tyr Leu Phe Lys Lys Asn Glu His Gly Val Phe Phe Val Lys Val Asn
      85              90              95

Ile Pro His Gly Thr Ser Ser Ile Lys Tyr Arg Leu Ile Val Asp Gly
      100             105             110

Val Trp Thr Asn Asp Glu Tyr Asn Lys Asn Val Val Tyr Asn Glu Asp
      115             120             125

Leu Ile Pro Phe Ser Lys Ile Glu Ile Ala Lys Glu Lys Ser Ser Tyr
      130             135             140

```

Ile Ser Leu Arg Asn Pro Ile Gln Ser Tyr Asp Asn Asn Glu Ile Glu  
145 150 155 160

Ile Phe Tyr Ile Gly Arg Pro Gly Gln Ile Val Thr Ile Ala Gly Ser  
165 170 175

Phe Asn Asn Phe Asn Pro Phe Leu Asn Arg Leu Ile Glu Lys Glu Asp  
180 185 190

Asn Lys Gly Ile Tyr Thr Ile Lys Leu Lys Asn Leu Pro Lys Asp Arg  
195 200 205

Ile Tyr Tyr Tyr Phe Ile Asp Ser Gly Asn Lys Val Ile Asp Lys Asn  
210 215 220

Asn Val Asn Arg Ile Asn Leu Tyr Phe Val Glu Gly Ile Asp Asn Lys  
225 230 235 240

Ile Asp Phe Glu Val Ser Tyr Phe Asp His Lys  
245 250

<210> 177

<211> 230

<212> PRT

<213> Homo sapiens

<400> 177

Asp Asp Tyr Leu Ile Tyr Asp Phe Asp Leu Ser Leu Asn Glu Phe Leu  
1 5 10 15

Glu Val Ser Thr Arg Lys Asp Asn Leu Glu Pro Met Val Asp Ser Asn  
20 25 30

Arg Ile Leu Leu Phe Tyr Pro Pro Lys Lys Glu Ile Arg Lys Ile Phe  
35 40 45

Ala Ala Phe Asp Phe Asp Gln Tyr Ser Lys Lys Tyr Leu Phe Lys Lys  
50 55 60

Asn Glu His Gly Val Phe Phe Val Lys Val Asn Ile Pro His Gly Thr  
65 70 75 80

Ser Ser Ile Lys Tyr Arg Leu Ile Val Asp Gly Val Trp Thr Asn Asp  
85 90 95

Glu Tyr Asn Lys Asn Val Val Tyr Asn Glu Asp Leu Ile Pro Phe Ser  
100 105 110

Lys Ile Glu Ile Ala Lys Glu Lys Ser Ser Tyr Ile Ser Leu Arg Asn  
115 120 125

Pro Ile Gln Ser Tyr Asp Asn Asn Glu Ile Glu Ile Phe Tyr Ile Gly  
130 135 140

Arg Pro Gly Gln Ile Val Thr Ile Ala Gly Ser Phe Asn Asn Phe Asn  
145 150 155 160

Pro Phe Leu Asn Arg Leu Ile Glu Lys Glu Asp Asn Lys Gly Ile Tyr

```
<210> 178
<211> 756
<212> DNA
<213> Homo sapiens
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```
<210> 179
<211> 693
<212> DNA
<213> Homo sapiens
```

```
<210> 180
<211> 129
<212> PRT
<213> Homo sapiens
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&lt;400&gt; 180

Met Arg Gln Arg Val Met Ile Ala Met Ala Leu Ser Cys His Pro Ser  
 1 5 10 15

Leu Leu Ile Ala Asp Glu Pro Thr Thr Ala Leu Asp Val Thr Ile Gln  
 20 25 30

Glu Gln Ile Leu Leu Leu Ile Lys Asn Leu Ser Lys Lys Phe Asn Thr  
 35 40 45

Ser Thr Ile Phe Ile Thr His Asp Leu Ala Val Val Ala Glu Ile Cys  
 50 55 60

Asp Thr Val Ser Val Met Tyr Gln Gly Lys Ile Val Glu Glu Gly Thr  
 65 70 75 80

Val Glu Glu Ile Phe Asn Asn Pro Lys His Pro Tyr Thr Ile Gly Leu  
 85 90 95

Leu Lys Ser Ile Leu Thr Leu Glu His Asp Pro Asn Lys Lys Leu Tyr  
 100 105 110

Ser Thr Lys Glu Asn Pro Met Lys Ile Thr Lys Thr Ser Thr Glu Glu  
 115 120 125

Phe

&lt;210&gt; 181

&lt;211&gt; 108

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 181

Glu Pro Thr Thr Ala Leu Asp Val Thr Ile Gln Glu Gln Ile Leu Leu  
 1 5 10 15

Leu Ile Lys Asn Leu Ser Lys Lys Phe Asn Thr Ser Thr Ile Phe Ile  
 20 25 30

Thr His Asp Leu Ala Val Val Ala Glu Ile Cys Asp Thr Val Ser Val  
 35 40 45

Met Tyr Gln Gly Lys Ile Val Glu Glu Gly Thr Val Glu Glu Ile Phe  
 50 55 60

Asn Asn Pro Lys His Pro Tyr Thr Ile Gly Leu Leu Lys Ser Ile Leu  
 65 70 75 80

Thr Leu Glu His Asp Pro Asn Lys Lys Leu Tyr Ser Thr Lys Glu Asn  
 85 90 95

Pro Met Lys Ile Thr Lys Thr Ser Thr Glu Glu Phe  
 100 105

&lt;210&gt; 182

&lt;211&gt; 390

&lt;212&gt; DNA

<213> Homo sapiens

<400> 182

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atgagacaaa gagttatgat tgccatggct cttagctgtc atccatcctt attaatagca 60
gatgaaccaa caacagccct tgatgttaca atccaagagc aaatattatt attaatacaa 120
aacctatcta aaaaattcaa tacttctacc atatttataa ctcatgatct tgcggttgtt 180
gctgaaatgt gtgatacagt atctgtaatg tatcaaggaa aaattgtaga agaaggaaca 240
gtagaggaaa tatttaacaa tcctaagcat ccttacacca ttgggctttt aaaatcaatt 300
cttacgctag aacacgatcc aaataaaaag ctttattcaa caaaagaaaa ccctatgaag 360
atcacaaaaa ccagcaccga ggagttttta 390
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<210> 183

<211> 327

<212> DNA

<213> Homo sapiens

<400> 183

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gaaccaacaa cagcccttga tgttacaatc caagagcaaa tattattatt aatcaaaaac 60
ctatctaaaa aattcaatac ttctaccata ttataactc atgatcttgc ggttgttgct 120
gaaatgtgtg atacagtatc tgtaatgtat caaggaaaaa ttgtagaaga aggaacagta 180
gaggaaatat ttaacaatcc taagcatcct tacaccattg ggcttttaaa atcaattcct 240
acgctagaac acgatccaaa taaaagctt tattcaacaa aagaaaacc tatgaagatc 300
acaaaaacca gcaccgagga gtttttaa 327
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<210> 184

<211> 147

<212> PRT

<213> Homo sapiens

<400> 184

```
Met Ala Ile Met Glu Arg Ser Ile Ile Gly Leu Phe Ile Ala Leu Ala
  1           5           10           15
```

```
Phe Val Ser Trp Leu Thr Val Ala Arg Val Val Arg Gly Gln Val Gln
          20           25           30
```

```
Ser Leu Ser Ser Ser Glu Phe Ile Gln Ala Ala Lys Thr Leu Gly Ala
          35           40           45
```

```
Thr Asn Gln Arg Ile Ile Leu Lys His Leu Ile Pro Asn Ser Ile Gly
          50           55           60
```

```
Met Ile Val Ile Phe Thr Thr Ile Arg Val Pro Ser Phe Ile Met Ala
          65           70           75           80
```

```
Glu Ala Phe Leu Ser Phe Leu Gly Leu Gly Ile Ser Ala Pro Met Thr
          85           90           95
```

```
Ser Trp Gly Glu Leu Val Gln Asn Gly Ile Ala Thr Phe Val Glu Tyr
          100          105          110
```

```
Pro Trp Lys Val Phe Ile Pro Ala Ile Val Met Thr Ile Phe Leu Leu
          115          120          125
```

```
Phe Met Asn Phe Leu Gly Asp Gly Leu Arg Asp Ala Phe Asp Pro Lys
          130          135          140
```

Asp Ser Ile

145

&lt;210&gt; 185

&lt;211&gt; 123

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 185

Arg Val Val Arg Gly Gln Val Gln Ser Leu Ser Ser Ser Glu Phe Ile  
 1 5 10 15

Gln Ala Ala Lys Thr Leu Gly Ala Thr Asn Gln Arg Ile Ile Leu Lys  
 20 25 30

His Leu Ile Pro Asn Ser Ile Gly Met Ile Val Ile Phe Thr Thr Ile  
 35 40 45

Arg Val Pro Ser Phe Ile Met Ala Glu Ala Phe Leu Ser Phe Leu Gly  
 50 55 60

Leu Gly Ile Ser Ala Pro Met Thr Ser Trp Gly Glu Leu Val Gln Asn  
 65 70 75 80

Gly Ile Ala Thr Phe Val Glu Tyr Pro Trp Lys Val Phe Ile Pro Ala  
 85 90 95

Ile Val Met Thr Ile Phe Leu Leu Phe Met Asn Phe Leu Gly Asp Gly  
 100 105 110

Leu Arg Asp Ala Phe Asp Pro Lys Asp Ser Ile  
 115 120

&lt;210&gt; 186

&lt;211&gt; 444

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 186

atggcaataa tggaaagaag tataatcggc ttattcatag cacttgcatt tgtatcatgg 60  
 ttaacagtag ctcgagttgt acgaggccaa gtacaatcac tatcaagttc ggaatttata 120  
 caagcagcca aaacccttgg tgcaacaaat caaagaataa tcttaaaaca cttgatccct 180  
 aatagcattg gaatgatagt tatattcaca acaataaggg ttccaagctt tattatggct 240  
 gaagcatttt tatccttttt aggacttgga atttcagctc caatgacaag ctggggagaa 300  
 ttagtgcaaa atggaattgc tacatttgggt gaatatccat ggaaagtttt tattccagct 360  
 atagttatga caatatttct attatttatg aacttttttag gtgatgggct aagggatgct 420  
 tttgatccaa aagatagcat ctaa 444

&lt;210&gt; 187

&lt;211&gt; 372

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 187

cgagttgtac gaggccaagt acaatcacta tcaagttcgg aattttatata agcagccaaa 60  
 acccttggtg caacaaatca aagaataatc ttaaaacact tgatccctaa tagcatttga 120  
 atgatagtta tattcacaac aataagggtt ccaagcttta ttatggctga agcattttta 180  
 tccttttttag gacttgggaat ttcagctcca atgacaagct ggggagaatt agtgcaaaat 240  
 ggaattgcta catttgttga atatccatgg aaagttttta ttccagctat agttatgaca 300



atatttctat tatttatgaa ctttttaggt gatgggctaa gggatgcttt tgatccaaaa 360  
 gatagcatct aa 372

<210> 188

<211> 306

<212> PRT

<213> Homo sapiens

<400> 188

Met Leu Lys Phe Thr Leu Lys Lys Ile Leu Gly Ile Ile Pro Thr Leu  
 1 5 10 15

Leu Val Ile Ile Phe Leu Cys Phe Phe Val Met Arg Met Ala Pro Gly  
 20 25 30

Ser Pro Phe Asp Ser Glu Lys Pro Ile Asp Pro Gln Val Lys Ala Arg  
 35 40 45

Leu Met Glu Lys Tyr His Leu Asp Lys Pro Phe Tyr Ile Gln Ala Phe  
 50 55 60

Tyr Tyr Ile Thr Asn Ala Leu Arg Gly Asp Leu Gly Pro Ser Leu Lys  
 65 70 75 80

Lys Lys Asp Leu Thr Val Ser Gln Tyr Ile Lys Leu Gly Phe Pro Lys  
 85 90 95

Ser Leu Thr Leu Gly Val Ile Ser Leu Ile Ile Ser Leu Ser Ile Gly  
 100 105 110

Ile Pro Ile Gly Ile Leu Ala Ala Ile Tyr Lys Asn Thr Tyr Val Asp  
 115 120 125

Tyr Ile Ile Thr Ser Ile Ala Ile Leu Gly Ile Ser Ile Pro Leu Phe  
 130 135 140

Val Ile Gly Pro Ile Leu Gln Tyr Phe Phe Ala Ile Lys Trp Gly Leu  
 145 150 155 160

Leu Tyr Thr Ser Gly Trp Ile Thr Glu Arg Gly Gly Phe Ser Asn Leu  
 165 170 175

Ile Leu Pro Ile Ile Thr Leu Ser Met Pro Asn Val Ala Ile Phe Ala  
 180 185 190

Arg Ile Ile Arg Gly Ser Met Leu Glu Ile Ile Gln Ser Asp Phe Ile  
 195 200 205

Arg Thr Ala Arg Ala Lys Gly Leu Ser Phe Lys Lys Ile Val Ile Lys  
 210 215 220

His Met Leu Arg Gly Ala Met Leu Pro Val Val Ser Tyr Ile Gly Pro  
 225 230 235 240

Ala Phe Ala Ala Ile Ile Ser Gly Ser Val Val Ile Glu Lys Ile Phe  
 245 250 255

Arg Ile Ala Gly Met Gly Met Phe Ile Thr Glu Ser Ala Leu Asn Arg

[illegible]

Arg Ile Ala Gly Met Gly Met Phe Ile Thr Glu Ser Ala Leu Asn Arg  
225 230 235 240

Asp Tyr Pro Val Leu Met Gly Gly Leu Leu Val Tyr Ser Ile Ile Leu  
245 250 255

Leu Ile Ser Ile Leu Ile Ser Asp Ile Ile Tyr Lys Ile Leu Asp Pro  
260 265 270

Arg Val

<210> 190

<211> 921

<212> DNA

<213> Homo sapiens

<400> 190

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atgttaaagt ttactttaaa gaaaatatta ggaataatac caactttact ggtaataatt 60
tttttatgct tttttgtaat gagaatggct cctggaagtc catttgattc tgaaaaacct 120
attgatcctc aagtaaaaagc aagattgatg gaaaaaatatc accttgacaa gcctttttat 180
attcaagctt tttattacat taaaaacgct ctccaggggag atctgggacc ttctttgaaa 240
aagaaagacc ttacagttag tcaatacata aaattaggat ttccaaaatc acttacacta 300
ggagtaatat cccttattat atcactatca ataggaatac caatagggtat attagctgcc 360
atttataaaa atacttatgt ggattatata ataacatcaa tagcaatatt ggggatttca 420
ataccattat tcgtaatagg gccaatttta caatatTTTT ttgcaattaa atgggggttg 480
ctttatacct ctggatggat tacagaaaaga ggaggatttt caaatttaaat tctaccata 540
ataactctta gcatgcccaa cgtagctatt ttcgcaagaa taatcagagg atcaatgcta 600
gaaataatac aaagcgactt tataagaact gcgcgtgcaa aagggctaag cttcaaaaag 660
atagttataa agcatatgtt aagaggagca atgttgcttg tagtaagcta tatagggtcca 720
gcatttgctg ctataatatc tggaagcgtg gttattgaaa aaatatTTtag aattgctgga 780
atgggaatgt ttataacaga atccgcacta aacagagatt acccagtatt aatgggcgga 840
ttgttagtat attcaataat actgcttatt tctatattaa tatcagatat tatatataaa 900
atattagatc caagagtata a                                     921
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<210> 191

<211> 825

<212> DNA

<213> Homo sapiens

<400> 191

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agtccatttg attctgaaaa acctattgat cctcaagtaa aagcaagatt gatggaaaaa 60
tatcaccttg acaagccttt ttatattcaa gctttttatt acattacaaa cgctctcagg 120
ggagatctgg gaccttcttt gaaaaagaaa gaccttacag ttagtcaata cataaaatta 180
ggatttccaa aatcaattac actaggagta atatccctta ttatatcact atcaatagga 240
ataccaatag gtatatttagc tgccatttat aaaaaactt atgtggatta tataataaca 300
tcaatagcaa tattggggat ttcaatacca ttattcgtaa tagggccaat ttacaatat 360
ttttttgcaa ttaaattggg tttgctttat acctctggat ggattacaga aagaggagga 420
ttttcaaatt taattctacc cataataact cttagcatgc ccaacgtagc tattttcgca 480
agaataatca gaggatcaat gctagaaata atacaaagcg actttataag aactgcgcgt 540
gcaaaaaggc taagcttcaa aaagatagtt ataaaagcata tgttaagagg agcaatgttg 600
cctgtagtaa gctatatagg tccagcattt gctgctataa tatctggaag cgtgggttatt 660
gaaaaaatat ttagaattgc tggaatggga atgtttataa cagaatccgc actaaacaga 720
gattaccag tattaatggg cggattgtta gtatattcaa taatactgct tatttctata 780
ttaatatcag atattatata taaaatatta gatccaagag tataa                                     825
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<210> 192

&lt;211&gt; 523

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 192

Met Lys Tyr Ile Lys Ile Ala Leu Met Leu Ile Ile Phe Ser Leu Ile  
 1 5 10 15

Ala Cys Ile Ser Asn Ala Lys Lys Glu Lys Ile Val Phe Arg Val Ser  
 20 25 30

Asn Leu Ser Glu Pro Ser Ser Leu Asp Pro Gln Leu Ser Thr Asp Leu  
 35 40 45

Tyr Gly Ser Asn Ile Ile Thr Asn Leu Phe Leu Gly Leu Ala Val Lys  
 50 55 60

Asp Ser Gln Thr Gly Lys Tyr Lys Pro Gly Leu Ala Lys Ser Trp Asn  
 65 70 75 80

Ile Ser Glu Asp Gly Ile Ile Tyr Thr Phe Asn Leu Arg Glu Asp Ile  
 85 90 95

Val Trp Ser Asp Gly Val Ala Ile Thr Ala Glu Glu Ile Lys Lys Ser  
 100 105 110

Tyr Leu Arg Ile Leu Asn Lys Lys Thr Ala Ala Met Tyr Ala Asn Leu  
 115 120 125

Ile Lys Ser Thr Ile Lys Asn Ala Gln Glu Tyr Phe Asp Glu Thr Val  
 130 135 140

Pro Glu Ser Glu Leu Gly Ile Lys Ala Ile Asp Ser Lys Thr Leu Glu  
 145 150 155 160

Ile Thr Leu Thr Ser Pro Lys Pro Tyr Phe Pro Asp Met Leu Thr His  
 165 170 175

Ser Ala Tyr Ile Pro Val Pro Met His Ile Val Glu Lys Tyr Gly Glu  
 180 185 190

Asn Trp Thr Asn Pro Glu Asn Ile Val Val Ser Gly Ala Tyr Lys Leu  
 195 200 205

Lys Glu Arg Ser Ile Asn Asp Lys Ile Val Ile Glu Lys Asn Glu Lys  
 210 215 220

Tyr Tyr Asn Ala Lys Asn Val Glu Ile Asp Glu Val Ile Phe Tyr Pro  
 225 230 235 240

Thr Glu Gly Ser Val Ala Tyr Asn Met Tyr Ile Asn Gly Glu Leu Asp  
 245 250 255

Phe Leu Gln Gly Ala Glu Lys Asn Asn Leu Glu Glu Ile Lys Ile Arg  
 260 265 270

Asp Asp Tyr Tyr Ser Gly Leu Lys Asn Gly Met Ala Tyr Ile Ala Phe  
 275 280 285

Asn Thr Thr Ile Lys Pro Leu Asp Asn Leu Lys Val Arg Gln Ala Ile  
290 295 300

Ser Leu Ala Ile Asp Arg Glu Thr Leu Thr Lys Val Val Leu Lys Gly  
305 310 315 320

Ser Ser Asp Pro Thr Arg Asn Leu Thr Pro Lys Phe Asp Asp Tyr Ser  
325 330 335

Tyr Gly Lys Asn Leu Ile Leu Phe Asp Pro Glu Asn Ala Lys Lys Leu  
340 345 350

Leu Ala Glu Ala Gly Tyr Pro Asp Gly Lys Gly Phe Pro Thr Leu Lys  
355 360 365

Tyr Lys Ile Ser Glu Gly Arg Pro Thr Thr Ala Glu Phe Leu Gln Glu  
370 375 380

Gln Phe Lys Lys Ile Leu Asn Ile Asn Leu Glu Ile Glu Asn Glu Glu  
385 390 395 400

Trp Thr Thr Phe Leu Gly Ser Arg Arg Thr Gly Asn Tyr Gln Met Ser  
405 410 415

Ser Val Gly Trp Ile Gly Asp Tyr Phe Asp Pro Leu Thr Phe Leu Asp  
420 425 430

Ser Leu Phe Thr Thr Glu Asn His Phe Leu Gly Ala Tyr Lys Tyr Ser  
435 440 445

Asn Lys Glu Tyr Asp Ala Leu Ile Lys Lys Ser Asn Phe Glu Leu Asp  
450 455 460

Pro Ile Lys Arg Gln Asp Ile Leu Arg Gln Ala Glu Glu Ile Ile Ala  
465 470 475 480

Glu Lys Asp Phe Pro Met Ala Pro Leu Tyr Ile Pro Lys Ser His Tyr  
485 490 495

Leu Phe Arg Asn Asp Lys Trp Thr Gly Trp Val Pro Asn Ile Ala Glu  
500 505 510

Ser Tyr Leu Tyr Glu Asp Ile Lys Thr Lys Lys  
515 520

<210> 193

<211> 506

<212> PRT

<213> Homo sapiens

<400> 193

Cys Ile Ser Asn Ala Lys Lys Glu Lys Ile Val Phe Arg Val Ser Asn  
1 5 10 15

Leu Ser Glu Pro Ser Ser Leu Asp Pro Gln Leu Ser Thr Asp Leu Tyr  
20 25 30

Gly Ser Asn Ile Ile Thr Asn Leu Phe Leu Gly Leu Ala Val Lys Asp  
 35 40 45  
 Ser Gln Thr Gly Lys Tyr Lys Pro Gly Leu Ala Lys Ser Trp Asn Ile  
 50 55 60  
 Ser Glu Asp Gly Ile Ile Tyr Thr Phe Asn Leu Arg Glu Asp Ile Val  
 65 70 75 80  
 Trp Ser Asp Gly Val Ala Ile Thr Ala Glu Glu Ile Lys Lys Ser Tyr  
 85 90 95  
 Leu Arg Ile Leu Asn Lys Lys Thr Ala Ala Met Tyr Ala Asn Leu Ile  
 100 105 110  
 Lys Ser Thr Ile Lys Asn Ala Gln Glu Tyr Phe Asp Glu Thr Val Pro  
 115 120 125  
 Glu Ser Glu Leu Gly Ile Lys Ala Ile Asp Ser Lys Thr Leu Glu Ile  
 130 135 140  
 Thr Leu Thr Ser Pro Lys Pro Tyr Phe Pro Asp Met Leu Thr His Ser  
 145 150 155 160  
 Ala Tyr Ile Pro Val Pro Met His Ile Val Glu Lys Tyr Gly Glu Asn  
 165 170 175  
 Trp Thr Asn Pro Glu Asn Ile Val Val Ser Gly Ala Tyr Lys Leu Lys  
 180 185 190  
 Glu Arg Ser Ile Asn Asp Lys Ile Val Ile Glu Lys Asn Glu Lys Tyr  
 195 200 205  
 Tyr Asn Ala Lys Asn Val Glu Ile Asp Glu Val Ile Phe Tyr Pro Thr  
 210 215 220  
 Glu Gly Ser Val Ala Tyr Asn Met Tyr Ile Asn Gly Glu Leu Asp Phe  
 225 230 235 240  
 Leu Gln Gly Ala Glu Lys Asn Asn Leu Glu Glu Ile Lys Ile Arg Asp  
 245 250 255  
 Asp Tyr Tyr Ser Gly Leu Lys Asn Gly Met Ala Tyr Ile Ala Phe Asn  
 260 265 270  
 Thr Thr Ile Lys Pro Leu Asp Asn Leu Lys Val Arg Gln Ala Ile Ser  
 275 280 285  
 Leu Ala Ile Asp Arg Glu Thr Leu Thr Lys Val Val Leu Lys Gly Ser  
 290 295 300  
 Ser Asp Pro Thr Arg Asn Leu Thr Pro Lys Phe Asp Asp Tyr Ser Tyr  
 305 310 315 320  
 Gly Lys Asn Leu Ile Leu Phe Asp Pro Glu Asn Ala Lys Lys Leu Leu  
 325 330 335  
 Ala Glu Ala Gly Tyr Pro Asp Gly Lys Gly Phe Pro Thr Leu Lys Tyr

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<210> 194
<211> 1572
<212> DNA
<213> Homo sapiens
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<400> 194						
atgaaatata	taaaaaatagc	cttaaatgcta	ataatTTTTT	ctttaaatagc	atgtattagt	60
aatgctaata	aagaaaaaat	agtTTTcaga	gtatcaaact	taagcgagcc	atcatcactt	120
gatcctcaac	tctcaacaga	cctttacggt	agcaacatta	ttacaaaacct	attcttaggc	180
ctagcggtaa	aagattctca	aactggaaaa	tataaacagg	gacttgcaaa	aagttggaat	240
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acagctgcaa	tgtatgctaa	tttaataaaa	tctacaataa	aaaatgcaca	agaatatttc	420
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ccagttccaa	tgcatattgt	tgaaaaatat	ggagaaaatt	ggacaaattc	tgaaaatata	600
gttggttagtg	gcgcatacaa	acttaaagaa	agatcaatta	acgataaaat	cgtaaatagaa	660
aaaaatgaaa	aatactataa	tgcaaaaaat	gtagaaaattg	atgaagttaat	attttaccca	720
acagaaggta	gcgtggctta	caatatgtac	ataaacgggtg	aactcgattt	tctacaagga	780
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aacggaatgg	catacatagc	attcaatata	acaataaaaac	cactagacaa	tttaaaaggt	900
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agttcagatc	caacaagaaa	tctaactcca	aaatttgatg	attattctta	tggaaaaaat	1020
ttaatactat	ttgactcctga	gaatgcaaaa	aaacttttag	ctgaagctgg	atatccggat	1080
gggaaaggat	tccccacatt	aaaaataaaa	aatatcggagg	gaagaccaac	aacagcagaa	1140
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```

tggacaacat tcctaggaag cagaagaact ggaaattacc aaatgtcaag cgtggggtgg 1260
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actaaaaaat aa 1572

```

&lt;210&gt; 195

&lt;211&gt; 1521

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 195

```

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ttcttaggcc tagcggtaaa agattctcaa actggaaaaa ataaaccagg acttgcaaaa 180
agttggaata tttctgaaga tggaattatt tacacattta acctaagaga agatatagtt 240
tgagcgcgat gagttgccat tactgccgag gagataaaaa aatcatacct aagaatttta 300
aataaaaaaa cagctgcaat gtatgctaatt ttaataaaa ctacaataaa aaatgcacaa 360
gaatatttcg atgagacagt gcctgaatct gagcttggca taaaggctat tgacagcaaa 420
accttagaga taacattaac atctccaaag ccttattttc ctgatatgct aacacactca 480
gcatacatat cagttccaat gcatattgtt gaaaaatatg gagaaaattg gacaaatcct 540
gaaaatatag ttgttagtgg cgcatacaaa cttaaagaaa gatcaattaa cgataaaatc 600
gtaatagaaa aaaatgaaaa atactataat gcaaaaaatg tagaaattga tgaagtaata 660
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ctacaaggag cagaaaagaa taatttagaa gaaattaaaa taagagatga ttattattct 780
gggttaaaaa acggaatggc atacatagca ttcaatacaa caataaaaacc actagacaat 840
ttaaaggtta gacaagccat tcccttgcc attgacagag aaactttaac taaagtagtt 900
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aatgaagaat ggacaacatt cctaggaagc agaagaactg gaaattacca aatgtcaagc 1200
gtggggtgga taggagatta ttttgatccc ttaacattct tagacagctt atttacaaca 1260
gaaaatcatt ttttaggagc gtacaaatat tcaaacaaag agtatgatgc ttttaataaaa 1320
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gatattaaaa ctaaaaaata a 1521

```

&lt;210&gt; 196

&lt;211&gt; 369

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 196

```

Met Lys Lys Ile Phe Leu Phe Leu Phe Ile Ser Phe Tyr Leu Phe Gly
 1             5             10            15

Phe Glu Asp Ser Ser Leu Lys Ile Gly Ile Asp Asp Val Tyr Val Glu
          20            25            30

Ala His Glu Glu Gly Phe His Leu Phe Ile Arg Lys Lys Pro Ala Ile
          35            40            45

Lys Ser Val Ile Leu Thr Glu Ser Phe Glu Ile Pro Asp Lys Lys Lys
          50            55            60

```



Asp	Val	Ala	Thr	Tyr	Ser	Phe	Arg	Thr	Leu	Ser	Tyr	Asn	Lys	Val	Asn	65	70	75	80
Gly	Asp	Glu	Ile	Arg	Ile	Leu	Asn	Gly	Arg	Val	Ile	Lys	Asn	Lys	Glu	85	90	95	
Leu	Leu	Ser	Leu	Thr	Ser	Ser	Thr	Pro	Val	Pro	Asn	Lys	Lys	Phe	Gly	100	105	110	
Glu	Ala	Phe	His	Ile	Leu	Ile	Pro	Lys	Lys	Leu	Lys	Tyr	Gly	Phe	Pro	115	120	125	
Asn	Phe	Ser	Thr	Arg	Ser	Gly	Asp	Ile	Asp	Leu	Glu	Val	Leu	Lys	Ser	130	135	140	
Lys	Lys	Glu	Pro	Phe	Trp	Phe	Ser	Ile	Arg	Ser	Phe	Glu	Lys	Lys	Tyr	145	150	155	160
Asn	Asp	Tyr	Leu	Gly	Arg	Tyr	Gln	Asp	Asn	Ala	Tyr	Glu	Leu	Leu	Phe	165	170	175	
Lys	Asp	Asp	Gln	Asn	Gln	Gly	Lys	Ile	Glu	Phe	Asn	Glu	Leu	Lys	Asp	180	185	190	
Thr	Phe	Thr	Lys	Phe	Ser	Asp	Glu	Val	Val	Ile	Ala	Asn	Asn	Gly	Ile	195	200	205	
Asp	Ile	Val	Asp	Lys	Ile	Asn	Lys	Ile	Leu	Lys	Asn	Ser	Glu	Asp	Ser	210	215	220	
Val	Tyr	Asp	Leu	Asp	Leu	Val	Leu	Val	Val	Asp	Val	Thr	Asp	Ser	Met	225	230	235	240
Lys	Ser	Asn	Ile	Glu	Ile	Leu	Lys	Glu	His	Leu	Phe	Ser	Ile	Ile	Glu	245	250	255	
Pro	Gln	Leu	Gln	Lys	Phe	Lys	Ser	Tyr	Arg	Ile	Gly	Leu	Val	Phe	Tyr	260	265	270	
Lys	Asp	Tyr	Leu	Glu	Asp	Phe	Leu	Thr	Lys	Ala	Phe	Asp	Phe	Asn	Thr	275	280	285	
Ile	Pro	Tyr	Leu	Asn	Asn	Ile	Leu	Lys	Tyr	Val	Asn	Val	Gly	Gly	Gly	290	295	300	
Gly	Asp	Tyr	Pro	Glu	Ala	Val	Phe	Glu	Gly	Ile	Asp	Ala	Ala	Val	Thr	305	310	315	320
Gln	Phe	Asp	Trp	Arg	Ala	Glu	Arg	Arg	Phe	Ile	Ile	Val	Ile	Gly	Asp	325	330	335	
Ala	Pro	Pro	His	Glu	Tyr	Pro	Arg	Gly	Ser	Ile	Val	Tyr	Lys	Asp	Val	340	345	350	
Ile	Asn	Ser	Ala	Lys	Glu	Lys	Asp	Ile	Thr	Ile	Tyr	Gly	Ile	Ile	Phe	355	360	365	

Gln

&lt;210&gt; 197

&lt;211&gt; 353

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 197

Phe Glu Asp Ser Ser Leu Lys Ile Gly Ile Asp Asp Val Tyr Val Glu  
 1 5 10 15  
 Ala His Glu Glu Gly Phe His Leu Phe Ile Arg Lys Lys Pro Ala Ile  
 20 25 30  
 Lys Ser Val Ile Leu Thr Glu Ser Phe Glu Ile Pro Asp Lys Lys Lys  
 35 40 45  
 Asp Val Ala Thr Tyr Ser Phe Arg Thr Leu Ser Tyr Asn Lys Val Asn  
 50 55 60  
 Gly Asp Glu Ile Arg Ile Leu Asn Gly Arg Val Ile Lys Asn Lys Glu  
 65 70 75 80  
 Leu Leu Ser Leu Thr Ser Ser Thr Pro Val Pro Asn Lys Lys Phe Gly  
 85 90 95  
 Glu Ala Phe His Ile Leu Ile Pro Lys Lys Leu Lys Tyr Gly Phe Pro  
 100 105 110  
 Asn Phe Ser Thr Arg Ser Gly Asp Ile Asp Leu Glu Val Leu Lys Ser  
 115 120 125  
 Lys Lys Glu Pro Phe Trp Phe Ser Ile Arg Ser Phe Glu Lys Lys Tyr  
 130 135 140  
 Asn Asp Tyr Leu Gly Arg Tyr Gln Asp Asn Ala Tyr Glu Leu Leu Phe  
 145 150 155 160  
 Lys Asp Asp Gln Asn Gln Gly Lys Ile Glu Phe Asn Glu Leu Lys Asp  
 165 170 175  
 Thr Phe Thr Lys Phe Ser Asp Glu Val Val Ile Ala Asn Asn Gly Ile  
 180 185 190  
 Asp Ile Val Asp Lys Ile Asn Lys Ile Leu Lys Asn Ser Glu Asp Ser  
 195 200 205  
 Val Tyr Asp Leu Asp Leu Val Leu Val Val Asp Val Thr Asp Ser Met  
 210 215 220  
 Lys Ser Asn Ile Glu Ile Leu Lys Glu His Leu Phe Ser Ile Ile Glu  
 225 230 235 240  
 Pro Gln Leu Gln Lys Phe Lys Ser Tyr Arg Ile Gly Leu Val Phe Tyr  
 245 250 255  
 Lys Asp Tyr Leu Glu Asp Phe Leu Thr Lys Ala Phe Asp Phe Asn Thr

260	265	270
Ile Pro Tyr Leu Asn Asn Ile Leu Lys Tyr Val Asn Val Gly Gly Gly		
275	280	285
Gly Asp Tyr Pro Glu Ala Val Phe Glu Gly Ile Asp Ala Ala Val Thr		
290	295	300
Gln Phe Asp Trp Arg Ala Glu Arg Arg Phe Ile Ile Val Ile Gly Asp		
305	310	315
Ala Pro Pro His Glu Tyr Pro Arg Gly Ser Ile Val Tyr Lys Asp Val		
325	330	335
Ile Asn Ser Ala Lys Glu Lys Asp Ile Thr Ile Tyr Gly Ile Ile Phe		
340	345	350

Gln

&lt;210&gt; 198

&lt;211&gt; 1110

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 198

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tttatttagaa	aaaaacctgc	aatcaaatca	gtaattattga	cagagtcctt	tgaaattcct	180
gataagaaaa	aagatgtggc	tacttattca	tttcgtacat	taagttataa	taagggtta	240
ggagatgaaa	ttcggatttt	aaatggaaga	gttattaaga	ataaagaact	tttatcattg	300
acatcttcca	cccctgttcc	taataaaaaag	tttggaaga	cttttcatat	attgattcca	360
aaaaaattaa	aatatggatt	tccaaatttt	tcaacaagaa	gtggtgatat	tgacttagaa	420
gtattaaaaa	gtaaaaaaga	gcccttttgg	ttttctataa	gatcttttga	gaaaaaatat	480
aatgattatt	tgggcagata	tcaagacaat	gcttatgaat	tgcttttcaa	ggatgatcaa	540
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caatttgatt	ggcgggcaga	aagaagggtt	attattgtta	taggagatgc	acctcctcat	1020
gagtatccaa	gaggggtctat	tgtttataaa	gatgttatca	attctgcaaa	ggaaaaagat	1080
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&lt;210&gt; 199

&lt;211&gt; 1062

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 199

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tttgaatttc	ctgataagaa	aaaagatgtg	gctacttatt	catttcgtac	attaagttat	180
aataagggtta	atggagatga	aattcggatt	ttaaatggaa	gagttattaa	gaataaagaa	240
cttttatcat	tgacatcttc	cacctctgtt	cctaataaaa	agtttgagaa	agcttttcat	300
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actgatagta tgaaaagcaa tattgagatt ctaaaagagc atttgttttc aataatagaa 720
cctcaacttc aaaagttaa atcctacaga ataggtcttg tttttataa agactatctt 780
gaagattttt taaccaaagc ttttgatttt aatactattc cttatttaaa taatattctt 840
aagtatgtta atgttggtgg cgggtggggat tatccagaag ctgtttttga ggggattgat 900
gctgctgtga cccaatttga ttggcgggca gaaagaagg ttattattgt tataggagat 960
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<210> 200

<211> 310

<212> PRT

<213> Homo sapiens

<400> 200

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Met Ile Phe Phe Arg Asn Ser Phe Met Ala Leu Ile Phe Ser Phe Ser
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Ile Leu Ser Ile Ser Tyr Phe Phe Gly Asp Phe Phe Gln Phe Ser Tyr
      20           25           30

Ile Lys Met Ile Ser Trp Arg Phe Ile Leu Phe Leu Ile Met Ala Thr
      35           40           45

Gly Ile Ala Thr Cys Ala Lys Ser Asn Ser Leu Asn Leu Gly Asn Glu
      50           55           60

Gly Gln Ile Tyr Phe Gly Ala Phe Leu Val Tyr Ile Phe Ser Ser Phe
      65           70           75           80

Phe Gly Leu Thr Tyr Phe Asn Phe Val Phe Leu Ile Leu Leu Ser Ser
      85           90           95

Phe Phe Val Gly Leu Leu Gly Leu Ile Pro Phe Phe Ile Thr Phe Phe
      100          105          110

Phe Gly Leu Asn Lys Ala Leu Thr Gly Leu Leu Ile Ser Tyr Gly Asn
      115          120          125

Gln Arg Leu Val Asp Gly Phe Ile Leu Asn Met Leu Lys Thr Gly Ser
      130          135          140

Phe Ser Asn Gln Thr Lys Arg Ile Asn Ser Leu Phe Ala Leu Asp Ser
      145          150          155          160

Ser Leu Ile Tyr Leu Phe Leu Leu Gly Val Ser Val Trp Leu Phe Tyr
      165          170          175

Val Phe Ile His Lys Lys Thr Ile Tyr Gly Leu Gln Leu Glu Ile Leu
      180          185          190

Ser Asn Lys Lys Lys Ile Asp Ile Phe Phe Asn Ile Asn Glu Phe Lys
      195          200          205

```

Tyr Lys Phe Phe Ala Val Phe Gly Ser Ala Phe Leu Asn Gly Leu Ala  
210 215 220

Gly Ser Met Phe Val Val Phe Phe Arg Pro Tyr Leu Val Leu Gly Leu  
225 230 235 240

Thr Ser Gly Leu Gly Trp Ser Ser Leu Ile Val Ala Val Ile Ser Gly  
245 250 255

Phe Asn Tyr Val Tyr Val Leu Phe Phe Ser Leu Leu Phe Ser Ile Leu  
260 265 270

Ile Glu Phe Asn Asn Phe Leu Asn Ile Asn Tyr Asp Phe Lys Tyr Glu  
275 280 285

Phe Ile Gly Leu Cys Gln Ser Ile Ala Ile Phe Ile Ser Leu Phe Leu  
290 295 300

Ile Lys Ala Arg Lys Lys  
305 310

<210> 201

<211> 257

<212> PRT

<213> Homo sapiens

<400> 201

Ala Lys Ser Asn Ser Leu Asn Leu Gly Asn Glu Gly Gln Ile Tyr Phe  
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Gly Ala Phe Leu Val Tyr Ile Phe Ser Ser Phe Phe Gly Leu Thr Tyr  
20 25 30

Phe Asn Phe Val Phe Leu Ile Leu Leu Ser Ser Phe Phe Val Gly Leu  
35 40 45

Leu Gly Leu Ile Pro Phe Phe Ile Thr Phe Phe Phe Gly Leu Asn Lys  
50 55 60

Ala Leu Thr Gly Leu Leu Ile Ser Tyr Gly Asn Gln Arg Leu Val Asp  
65 70 75 80

Gly Phe Ile Leu Asn Met Leu Lys Thr Gly Ser Phe Ser Asn Gln Thr  
85 90 95

Lys Arg Ile Asn Ser Leu Phe Ala Leu Asp Ser Ser Leu Ile Tyr Leu  
100 105 110

Phe Leu Leu Gly Val Ser Val Trp Leu Phe Tyr Val Phe Ile His Lys  
115 120 125

Lys Thr Ile Tyr Gly Leu Gln Leu Glu Ile Leu Ser Asn Lys Lys Lys  
130 135 140

Ile Asp Ile Phe Phe Asn Ile Asn Glu Phe Lys Tyr Lys Phe Phe Ala  
145 150 155 160

Val Phe Gly Ser Ala Phe Leu Asn Gly Leu Ala Gly Ser Met Phe Val

165

170

175

Val Phe Phe Arg Pro Tyr Leu Val Leu Gly Leu Thr Ser Gly Leu Gly  
 180 185 190

Trp Ser Ser Leu Ile Val Ala Val Ile Ser Gly Phe Asn Tyr Val Tyr  
 195 200 205

Val Leu Phe Phe Ser Leu Leu Phe Ser Ile Leu Ile Glu Phe Asn Asn  
 210 215 220

Phe Leu Asn Ile Asn Tyr Asp Phe Lys Tyr Glu Phe Ile Gly Leu Cys  
 225 230 235 240

Gln Ser Ile Ala Ile Phe Ile Ser Leu Phe Leu Ile Lys Ala Arg Lys  
 245 250 255

Lys

&lt;210&gt; 202

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 202

```

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attttatttt taattatggc tacggggatt gctacttggt ccaagagtaa ttcattaaat 180
cttggaatg aaggtcagat ttattttggg gcatttttag tttatatatt ttcaagtttt 240
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cttttggggc ttatccctt ttttattact tttttcttcg gattaaataa agccttaaca 360
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aaaacaggta gtttttctaa tcagacaaaa aggattaata gtttgtttgc tttagattca 480
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acttcaggac ttggttgag tagtctaatt gttgctgtaa tttcaggatt taattatgtt 780
tatgtattat ttttagctt attgttttca atattaattg aatttaataa ttttcttaat 840
ataaattatg actttaagta tgaatttatt gggctttgtc aatcaattgc tatttttatc 900
tctttatttt tgattaaagc taggaaaaag tag 933

```

&lt;210&gt; 203

&lt;211&gt; 774

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 203

```

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gtttatatat ttccaagttt ttttgatta acctatttta attttgtatt tttgatactt 120
ttaagttctt ttttgtagg acttttgggg cttatccct tttttattac tttttcttc 180
ggattaaata aagccttaac aggtctttta atatcttatg gaaatcaaag attgggtggat 240
ggatttattt taaatatgtt aaaaacagggt agtttttcta atcagacaaa aaggattaat 300
agtttgtttg ctttagattc atcacttatt tacttgttt tgcttggtgt atcagtttgg 360
cttttttatg tttttattca caaaaaaact atttatgggtc ttcagcttga aatattaagc 420
aataaaaaaa agatagacat ttttttcaat ataaatgaat ttaaataata gtttttcgct 480
gtatttggca gtgctttttt aaatggtctt gcaggttcta tgttttagt gttttttaga 540

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ccatatttgg ttttagggct aacttcagga cttggttgga gtagtctaata tgttgctgta 600
atttcaggat ttaattatgt ttatgtatta ttttttagct tattgttttc aatattaatt 660
gaatttaata attttcttaa tataaattat gactttaagt atgaatttat tgggctttgt 720
caatcaattg ctatttttat ctctttattt ttgattaaag ctaggaaaaa gtag 774

```

<210> 204

<211> 364

<212> PRT

<213> Homo sapiens

<400> 204

```

Met Val Val Glu Ile Asn Ser Leu Arg Thr Cys Tyr Leu Leu Val Leu
  1             5             10             15

```

```

Leu Leu Leu Val Ala Tyr Gly Leu Val Val Phe Tyr Thr Ser Ser Phe
      20             25             30

```

```

Phe Leu Ser Leu Glu Leu Thr Gly Asn Pro Asn Phe Leu Phe Phe Thr
      35             40             45

```

```

Arg Leu Asn Tyr Leu Phe Leu Ser Phe Met Val Phe Leu Val Phe Glu
      50             55             60

```

```

Arg Ile Ser Leu Asn Phe Leu Lys Lys Ser Ile Phe Pro Val Leu Ile
      65             70             75             80

```

```

Ile Thr Leu Phe Leu Ile Met Ala Thr Phe Leu Ser Pro Ser Ile Ser
      85             90             95

```

```

Gly Ala Lys Arg Trp Ile Phe Phe Gln Gly Val Ser Ile Gln Pro Ser
      100            105            110

```

```

Glu Ile Phe Lys Ile Ser Phe Thr Ile Tyr Leu Ser Ala Tyr Leu Ser
      115            120            125

```

```

Lys Phe Asp Pro Arg Lys Asn Asn Gly Ile Ser Tyr Trp Ile Lys Pro
      130            135            140

```

```

Met Leu Ile Phe Ala Ile Phe Trp Val Leu Ile Ile Leu Gln Asn Asp
      145            150            155            160

```

```

Tyr Ser Thr Ala Ile Tyr Phe Ala Ile Leu Phe Phe Ile Val Leu Phe
      165            170            175

```

```

Val Ser Asn Met Ala Phe Ser Tyr Val Phe Ala Ile Val Val Thr Phe
      180            185            190

```

```

Leu Pro Val Ser Ala Ile Phe Leu Met Leu Glu Pro Tyr Arg Val Ser
      195            200            205

```

```

Arg Ile Phe Ala Phe Leu Asn Pro Tyr Asp Asp Pro Ser Gly Lys Gly
      210            215            220

```

```

Tyr Gln Ile Ile Ala Ser Leu Asn Ala Leu Lys Ser Gly Gly Ile Leu
      225            230            235            240

```

```

Gly Lys Gly Leu Gly Met Gly Glu Val Lys Leu Gly Lys Leu Pro Glu
      245            250            255

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Ala Asn Ser Asp Phe Ile Phe Ser Val Leu Gly Glu Glu Leu Gly Phe  
 260 265 270

Leu Gly Val Leu Phe Ala Ile Ser Leu Phe Phe Leu Phe Phe Tyr Phe  
 275 280 285

Gly Tyr Phe Ile Ala Ile His Ser Asn Ser Arg Phe Lys Phe Phe Ile  
 290 295 300

Ala Phe Ile Ser Ser Leu Ala Ile Phe Leu Gln Ser Met Met Asn Ile  
 305 310 315 320

Leu Ile Ala Ile Gly Leu Leu Pro Pro Thr Gly Ile Asn Leu Pro Phe  
 325 330 335

Phe Ser Ser Gly Gly Ser Ser Ile Ile Val Thr Met Ala Leu Ser Gly  
 340 345 350

Leu Ile Ser Asn Val Ser Lys Asn Leu Ser Asn Asn  
 355 360

<210> 205

<211> 300

<212> PRT

<213> Homo sapiens

<400> 205

Arg Ile Ser Leu Asn Phe Leu Lys Lys Ser Ile Phe Pro Val Leu Ile  
 1 5 10 15

Ile Thr Leu Phe Leu Ile Met Ala Thr Phe Leu Ser Pro Ser Ile Ser  
 20 25 30

Gly Ala Lys Arg Trp Ile Phe Phe Gln Gly Val Ser Ile Gln Pro Ser  
 35 40 45

Glu Ile Phe Lys Ile Ser Phe Thr Ile Tyr Leu Ser Ala Tyr Leu Ser  
 50 55 60

Lys Phe Asp Pro Arg Lys Asn Asn Gly Ile Ser Tyr Trp Ile Lys Pro  
 65 70 75 80

Met Leu Ile Phe Ala Ile Phe Trp Val Leu Ile Ile Leu Gln Asn Asp  
 85 90 95

Tyr Ser Thr Ala Ile Tyr Phe Ala Ile Leu Phe Phe Ile Val Leu Phe  
 100 105 110

Val Ser Asn Met Ala Phe Ser Tyr Val Phe Ala Ile Val Val Thr Phe  
 115 120 125

Leu Pro Val Ser Ala Ile Phe Leu Met Leu Glu Pro Tyr Arg Val Ser  
 130 135 140

Arg Ile Phe Ala Phe Leu Asn Pro Tyr Asp Asp Pro Ser Gly Lys Gly  
 145 150 155 160



Tyr Gln Ile Ile Ala Ser Leu Asn Ala Leu Lys Ser Gly Gly Ile Leu  
 165 170 175

Gly Lys Gly Leu Gly Met Gly Glu Val Lys Leu Gly Lys Leu Pro Glu  
 180 185 190

Ala Asn Ser Asp Phe Ile Phe Ser Val Leu Gly Glu Glu Leu Gly Phe  
 195 200 205

Leu Gly Val Leu Phe Ala Ile Ser Leu Phe Phe Leu Phe Phe Tyr Phe  
 210 215 220

Gly Tyr Phe Ile Ala Ile His Ser Asn Ser Arg Phe Lys Phe Phe Ile  
 225 230 235 240

Ala Phe Ile Ser Ser Leu Ala Ile Phe Leu Gln Ser Met Met Asn Ile  
 245 250 255

Leu Ile Ala Ile Gly Leu Leu Pro Pro Thr Gly Ile Asn Leu Pro Phe  
 260 265 270

Phe Ser Ser Gly Gly Ser Ser Ile Ile Val Thr Met Ala Leu Ser Gly  
 275 280 285

Leu Ile Ser Asn Val Ser Lys Asn Leu Ser Asn Asn  
 290 295 300

<210> 206

<211> 1095

<212> DNA

<213> Homo sapiens

<400> 206

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atggtttag agataaattc acttaggaca tggtatttgc ttgttttgct gctatttgga 60
gcctatggcc ttgtagtttt ttatacttct tccttttttc taagcttaga attgacaggt 120
aatccaaatt ttttattttt cacaagactt aattatcttt ttttaagttt tatggttttt 180
cttggttttg aaaggatttc tttaaatttt ttaaaaaaat caatatttcc tgtattgatt 240
ataactcttt ttttaattat ggcaactttt ttatctccaa gtatttctgg agcaaagaga 300
tggatattct ttcaaggtgt tagcattcaa ccttctgaga tttttaaaat atcttttact 360
atztatcttt cagcttattt gagcaagttt gaccaagaa aaaacaatgg tatttcatac 420
tggataaagc caatgttgat ttttgcaatt ttttgggtgt taataatttt gcaaaacgat 480
tattcaacag ctatttattt tgccattctt ttttttattg ttttgtttgt ttctaataatg 540
gcatttagct atgtttttgc tattgtgggt acttttttac cagtttctgc tatattcttg 600
atgcttgaac cttatagggt ttctagaatt tttgcctttc tcaatcctta cgatgacct 660
tctggcaaaag gttaccagat aatagcatct cttaatgctt taaaaagtgg aggaatttta 720
ggtaaaagggc tgggaatggg agaggtaaaa cttggaaaat taccagaggc caattcggat 780
tttatttttt cagttcttgg agaagaatta ggatttttag gggtttttgt tgctataaagc 840
ttgttttttt tggtttttta ctttggttat tttatagcta ttcattctaa tagtaggttt 900
aaatttttta ttgcatttat ttcaagtctt gcaatttttc ttcaaagcat gatgaatatt 960
ttaattgcaa tcggtctttt gcctcctaca gggataaatt taccattttt ttcatctggg 1020
ggatcttcta ttattgttac catggcattg tctggcctta tttcaaagt ttcaaaaaat 1080
ttaagtaata attga 1095

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<210> 207

<211> 903

<212> DNA

<213> Homo sapiens

&lt;400&gt; 207

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ttaattatgg caactttttt atctccaagt atttctggag caaagagatg gatattcttt 120
caagggtgta gcattcaacc ttctgagatt tttaaaatat cttttactat ttatctttca 180
gcttatttga gcaagtttga cccaagaaaa aacaatggta ttccatactg gataaagcca 240
atggtgattt ttgcaatttt ttgggtggtt ataattttgc aaaacgatta ttcaacagct 300
atttattttg ccattctttt ttttattggt ttgtttgttt ctaatatggc atttagctat 360
gtttttgcta ttgtggttac ttttttacca gtttctgcta tattcttgat gcttgaacct 420
tatagggttt ctagaatttt tgcctttctc aatccttacg atgaccttc tggcaaagg 480
taccagataa tagcatctct taatgcttta aaaagtggag gaattttagg taaagggctg 540
ggaatgggag aggtaaaact tggaaaatta ccagaggcca attcggattt tattttttca 600
gttcttggag aagaattagg atttttaggg gttttgtttg ctataagctt gttttttttg 660
tttttttact ttggttattt tatagctatt cattctaata gtaggtttta attttttatt 720
gcattttatt caagtcttgc aatttttctt caaagcatga tgaatatttt aattgcaatc 780
ggtcttttgc ctctacagg gataaaattt ccattttttt catctggggg atcttctatt 840
attggtacca tggcattgtc tggccttatt tcaaagtgtt caaaaaattt aagtaataat 900
tga

```

&lt;210&gt; 208

&lt;211&gt; 207

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 208

```

Met Lys Val Asn Asn Phe Leu Ser Phe Phe Phe Arg Ala Phe Phe Leu
 1             5             10             15

Leu Phe Leu Ile Val Ile Leu Phe Phe Phe Val Leu Phe Phe Ile Asp
      20             25             30

Phe Ile Gly Met Tyr Asn Thr Lys Arg Tyr Phe Pro Glu Phe Val Arg
      35             40             45

Thr Lys Leu Leu Gly Glu Thr Ser Leu Val Phe Asp His Asn Ser Asn
 50             55             60

Ile Ile Leu Asp Glu Ala Arg Leu Val Lys Glu Arg Glu Ala Ile Asp
 65             70             75             80

Ile Lys Asn Gln Gln Ile Glu Lys Leu Lys Glu Asp Leu Lys Leu Lys
      85             90             95

Glu Asp Ser Leu Asn Lys Leu Glu Phe Glu Leu Lys Gln Lys Gln Lys
100             105             110

Asp Leu Asp Leu Lys Gln Lys Ile Ile Asp Asp Ile Ile Asn Lys Tyr
115             120             125

Asn Asp Glu Glu Ala Asn Ile Leu Gln Thr Ala Val Tyr Leu Met Asn
130             135             140

Met Pro Pro Glu Asp Ala Val Lys Arg Leu Glu Asp Leu Asn Pro Glu
145             150             155             160

Leu Ala Ile Ser Tyr Met Arg Lys Ile Glu Glu Leu Ser Lys Lys Glu
165             170             175

Gly Arg Leu Ser Ile Val Pro Tyr Trp Leu Ser Leu Met Asp Ser Lys

```

180 185 190

Lys Ala Ala Ile Leu Ile Arg Lys Met Ser Val Ser Ser Leu Glu  
 195 200 205

<210> 209  
 <211> 177  
 <212> PRT  
 <213> Homo sapiens

<400> 209  
 Ile Asp Phe Ile Gly Met Tyr Asn Thr Lys Arg Tyr Phe Pro Glu Phe  
 1 5 10 15

Val Arg Thr Lys Leu Leu Gly Glu Thr Ser Leu Val Phe Asp His Asn  
 20 25 30

Ser Asn Ile Ile Leu Asp Glu Ala Arg Leu Val Lys Glu Arg Glu Ala  
 35 40 45

Ile Asp Ile Lys Asn Gln Gln Ile Glu Lys Leu Lys Glu Asp Leu Lys  
 50 55 60

Leu Lys Glu Asp Ser Leu Asn Lys Leu Glu Phe Glu Leu Lys Gln Lys  
 65 70 75 80

Gln Lys Asp Leu Asp Leu Lys Gln Lys Ile Ile Asp Asp Ile Ile Asn  
 85 90 95

Lys Tyr Asn Asp Glu Glu Ala Asn Ile Leu Gln Thr Ala Val Tyr Leu  
 100 105 110

Met Asn Met Pro Pro Glu Asp Ala Val Lys Arg Leu Glu Asp Leu Asn  
 115 120 125

Pro Glu Leu Ala Ile Ser Tyr Met Arg Lys Ile Glu Glu Leu Ser Lys  
 130 135 140

Lys Glu Gly Arg Leu Ser Ile Val Pro Tyr Trp Leu Ser Leu Met Asp  
 145 150 155 160

Ser Lys Lys Ala Ala Ile Leu Ile Arg Lys Met Ser Val Ser Ser Leu  
 165 170 175

Glu

<210> 210  
 <211> 624  
 <212> DNA  
 <213> Homo sapiens

<400> 210  
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 gttattttat ttttctttgt attattcttt attgatttta ttggaatgta taatactaaa 120  
 agatatttcc ccgaatttgt aagaaccaag ttgtaggag aaacttctct ggtctttgat 180  
 cataattcta atataattct tgatgaagct agacttgtga aggaaagaga agctattgat 240  
 attaagaatc agcagattga aaagcttaaa gaagatctaa agttaaaaga agacagttta 300

```

aataagcttg aatttgagct taagcaaaag cagaaagatt tagatttaaa acaaaaaata 360
atagatgaca ttataaataa atataatgat gaggaagcaa atattttgca aacagctgta 420
tatttaatga atatgccacc agaagatgct gttaagcggc ttgaagattt aaatcccgag 480
cttgcaatat cttatatgcg gaaaattgaa gagctttcca aaaaagaagg tcgtttatca 540
attgttcctt attggttatc tcttatggat tctaaaaaag ctgctatatt gattagaaaa 600
atgtctgtta gttcattgga gtag                                     624

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<210> 211

<211> 534

<212> DNA

<213> Homo sapiens

<400> 211

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attgatttta ttggaatgta taataactaaa agatatttcc ccgaatttgt aagaaccaag 60
ttgttaggag aaacttctct ggtctttgat cataattcta atataattct tgatgaagct 120
agacttggtga aggaaagaga agctattgat attaagaatc agcagattga aaagcttaaa 180
gaagatctaa agttaaaaga agacagttaa aataagcttg aatttgagct taagcaaaag 240
cagaaagatt tagatttaaa acaaaaaata atagatgaca ttataaataa atataatgat 300
gaggaagcaa atattttgca aacagctgta tatttaatga atatgccacc agaagatgct 360
gttaagcggc ttgaagattt aaatcccgag cttgcaatat cttatatgcg gaaaattgaa 420
gagctttcca aaaaagaagg tcgtttatca attgttcctt attggttatc tcttatggat 480
tctaaaaaag ctgctatatt gattagaaaa atgtctgtta gttcattgga gtag       534

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<210> 212

<211> 242

<212> PRT

<213> Homo sapiens

<400> 212

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Met Leu Thr Tyr Gly Asp Met Val Thr Leu Leu Leu Val Phe Phe Val
 1              5              10              15

Thr Met Phe Ser Leu Asn Asp Ile Ile Phe Gln Glu Asn Val Ile Arg
              20              25              30

Ile Met Ser Ala Ser Phe Thr Gly Ala Gly Phe Phe Lys Gly Gly Lys
              35              40              45

Thr Leu Asp Phe Ser Lys Leu Ser Tyr Leu Ser Asn Ser Phe Met Ser
 50              55              60

Leu Pro Ser Thr Val Arg Asn Lys Gln Ala Ser Gln Thr Ala Lys Asn
 65              70              75              80

Lys Ser Met Ile Glu Phe Ile Glu Lys Ile Gln Ser Lys Asn Ile Val
              85              90              95

Val Arg Gln Glu Glu Arg Gly Ile Val Ile Ser Leu Ala Ala Asp Ala
              100              105              110

Phe Phe Asp Ser Ala Ser Ala Asp Val Lys Leu Glu Glu Asn Arg Asp
 115              120              125

Ser Ile Gln Lys Ile Ala Ser Phe Ile Gly Phe Leu Ser Pro Arg Gly
 130              135              140

Tyr Asn Phe Lys Ile Glu Gly His Thr Asp Asn Ile Asp Thr Asp Val
 145              150              155              160

```

Asn Gly Pro Trp Lys Ser Asn Trp Glu Leu Ser Ala Ala Arg Ser Val  
 165 170 175

Asn Met Leu Glu His Ile Leu Asn Tyr Leu Asp Gln Ser Asp Val Lys  
 180 185 190

Arg Ile Glu Asn Asn Phe Glu Val Ser Gly Phe Gly Gly Ser Arg Pro  
 195 200 205

Ile Ala Thr Asp Asp Thr Pro Glu Gly Arg Ala Tyr Asn Arg Arg Ile  
 210 215 220

Asp Ile Leu Ile Thr Thr Asp Ala Ser Leu Ser Phe Pro Lys Glu Ile  
 225 230 235 240

Lys Gln

<210> 213

<211> 221

<212> PRT

<213> Homo sapiens

<400> 213

Asn Asp Ile Ile Phe Gln Glu Asn Val Ile Arg Ile Met Ser Ala Ser  
 1 5 10 15

Phe Thr Gly Ala Gly Phe Phe Lys Gly Gly Lys Thr Leu Asp Phe Ser  
 20 25 30

Lys Leu Ser Tyr Leu Ser Asn Ser Phe Met Ser Leu Pro Ser Thr Val  
 35 40 45

Arg Asn Lys Gln Ala Ser Gln Thr Ala Lys Asn Lys Ser Met Ile Glu  
 50 55 60

Phe Ile Glu Lys Ile Gln Ser Lys Asn Ile Val Val Arg Gln Glu Glu  
 65 70 75 80

Arg Gly Ile Val Ile Ser Leu Ala Ala Asp Ala Phe Phe Asp Ser Ala  
 85 90 95

Ser Ala Asp Val Lys Leu Glu Glu Asn Arg Asp Ser Ile Gln Lys Ile  
 100 105 110

Ala Ser Phe Ile Gly Phe Leu Ser Pro Arg Gly Tyr Asn Phe Lys Ile  
 115 120 125

Glu Gly His Thr Asp Asn Ile Asp Thr Asp Val Asn Gly Pro Trp Lys  
 130 135 140

Ser Asn Trp Glu Leu Ser Ala Ala Arg Ser Val Asn Met Leu Glu His  
 145 150 155 160

Ile Leu Asn Tyr Leu Asp Gln Ser Asp Val Lys Arg Ile Glu Asn Asn  
 165 170 175

Phe Glu Val Ser Gly Phe Gly Gly Ser Arg Pro Ile Ala Thr Asp Asp  
180 185 190

Thr Pro Glu Gly Arg Ala Tyr Asn Arg Arg Ile Asp Ile Leu Ile Thr  
195 200 205

Thr Asp Ala Ser Leu Ser Phe Pro Lys Glu Ile Lys Gln  
210 215 220

<210> 214

<211> 729

<212> DNA

<213> Homo sapiens

<400> 214

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atgttgactt atggagacat gggtactttg ctgcttgtgt tttttgttac aatgttttca 60
ttaaatgata ttatttttca agaaaatgtg ataagaataa tgtctgcttc tttcacgggt 120
gctggatttt tcaaggcgcg taaaacttta gatttttagta aattatctta tttgagtaat 180
agctttatgt ctttgccttc tactgtgcgc aataaacaag catctcagac tgctaaaaat 240
aaatccatga ttgaatttat tgagaagatt cagtctaaaa atattgtagt taggcaagaa 300
gaaagaggta ttgtaatatc tcttgcagca gatgcatttt ttgattctgc tagtgcagat 360
gttaagcttg aagagaatag agattctatt caaaaaatag catcttttat tggcttttta 420
agtcctagag gctataattt taaaatagaa gggcatcacg ataatttga tactgatgta 480
aatggacctt ggaaaagcaa ttgggaactt tcggctgcta gatctgttaa tatgctggaa 540
catattttga actattttag tcaatctgat gttaaaagaa ttgaaaataa ttttgaagta 600
tctggttttg gtggaagtag gcctattgca acagacgata cccctgaggg tagggcttat 660
aatagaagaa ttgatataat aattactaca gatgcatctt taagtttccc taaggaaatt 720
aagcagtaa 729
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<210> 215

<211> 666

<212> DNA

<213> Homo sapiens

<400> 215

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aatgatatta tttttcaaga aaatgtgata agaataatgt ctgcttcttt caccgggtgct 60
ggatttttca agggcggtta aacttttagat tttagtaaat tatcttattt gagtaatagc 120
tttatgtctt tgccttctac tgtgcgcaat aaacaagcat ctccagactgc taaaaataaa 180
tccatgattg aattttattga gaagattcag tctaaaaata ttgtagttag gcaagaagaa 240
agaggatttg taatatctct tgcagcagat gcattttttg attctgctag tgcagatggt 300
aagcttgaag agaatagaga ttctattcaa aaaatagcat cttttattgg ctttttaagt 360
cctagaggct ataattttta aatagaaggg catcacagata atattgatac tgatgtaaat 420
ggaccttgga aaagcaattg ggaactttcg gctgctagat ctgttaatat gctggaacat 480
attttgaact atttagatca atctgatgtt aaaagaattg aaaataattt tgaagtatct 540
ggttttgggt gaagtaggcc tattgcaaca gacgataccc ctgagggttag ggcttataat 600
agaagaattg atatattaat tactacagat gcattcttaa gtttccctaa ggaaattaag 660
cagtaa 666
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<210> 216

<211> 285

<212> PRT

<213> Homo sapiens

<400> 216

Met Arg Met Ser Val Tyr Thr Met Gly Phe Ala Tyr Ile Arg Ser Ile  
1 5 10 15

Met Gly Tyr Val Val Leu Phe Phe Phe Ala Ser Leu Ala Val Asn Phe

[illegible]

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<210> 217
<211> 253
<212> PRT
<213> Homo sapiens
```

<400> 217  
Phe Val Asn Ile Ile Gln Val Gly Phe Phe Ile Thr Phe Lys Ser Leu  
1 5 10 15

Glu Pro Arg Trp Asp Lys Ile Ser Phe Asn Phe Ser Arg Trp Ala Lys  
                   20                                  25                                  30  
 Asn Ser Phe Phe Ser Ala Gly Ala Phe Phe Asn Leu Phe Lys Ser Leu  
                   35                                  40                                  45  
 Leu Lys Val Val Ile Ile Cys Leu Ile Tyr Tyr Phe Ile Ile Glu Asn  
                   50                                  55                                  60  
 Asn Ile Gly Lys Ile Ser Lys Leu Ser Glu Tyr Thr Leu Gln Ser Gly  
                   65                                  70                                  75                                  80  
 Ile Ser Ile Val Leu Val Ile Ala Tyr Lys Ile Cys Phe Phe Ser Val  
                                   85                                  90                                  95  
 Met Phe Leu Ala Ile Val Gly Val Phe Asp Tyr Leu Phe Gln Arg Ser  
                                   100                                  105                                  110  
 Gln Tyr Ile Glu Ser Leu Lys Met Thr Lys Glu Glu Val Lys Gln Glu  
                   115                                  120                                  125  
 Arg Lys Glu Met Glu Gly Asp Pro Leu Leu Arg Ser Arg Ile Lys Glu  
                   130                                  135                                  140  
 Arg Met Arg Val Ile Leu Ser Thr Asn Leu Arg Val Ala Ile Pro Gln  
                   145                                  150                                  155                                  160  
 Ala Asp Val Val Ile Thr Asn Pro Glu His Phe Ala Val Ala Ile Lys  
                                   165                                  170                                  175  
 Trp Asp Ser Glu Thr Met Leu Ala Pro Lys Val Leu Ala Lys Gly Gln  
                   180                                  185                                  190  
 Asp Glu Ile Ala Leu Thr Ile Lys Lys Ile Ala Arg Glu Asn Asn Val  
                   195                                  200                                  205  
 Pro Leu Met Glu Asn Lys Leu Leu Ala Arg Ala Leu Tyr Ala Asn Val  
                   210                                  215                                  220  
 Lys Val Asn Glu Glu Ile Pro Arg Glu Tyr Trp Glu Ile Val Ser Lys  
                   225                                  230                                  235                                  240  
 Ile Leu Val Arg Val Tyr Ser Ile Thr Lys Lys Phe Asn  
                                   245                                  250

&lt;210&gt; 218

&lt;211&gt; 858

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 218

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 gttttgtttt ttttcgcac ttttagctgtt aatttttttg ttaatattat tcaagtaggc 120  
 ttttttatta cttttaaatc tttggagcca aggtgggata aaattagtgtt taatttttcc 180  
 agatgggcaa aaaattcttt tttttcagca ggggcttttt tcaatttggt taaaagtgtg 240  
 ttaaaagtgtg ttataatatg cttgatatat tattttatta tagaaaacaa tataggcaaa 300  
 atttctaagc tttcggagta tacacttcaa tctggaattt ctattgtgtt agtgattgcc 360



```

tataagatat gttttttttc agtaatgttt ttggcaattg taggggtggt tgattatttg 420
tttcaaagat ctgagtacat tgagagtttg aaaatgacaa aagaagaggt aaagcaggaa 480
agaaaggaaa tggaagggtga tccttttactt cgatctagaa taaaagagag aatgaggggt 540
attttaagta ccaatttaag agtagctatt cctcaagcag atgtagtaat tacaaatcca 600
gaacattttg cagttgctat taaatgggat agcgaaacaa tgtagctcc aaaggtgctt 660
gcaaaagggtc aagatgaaat agctctcaca attaaaaaaa ttgcaagaga aaataatggt 720
cctttaatgg aaaataagct ccttgcaaga gctctttatg ctaatgttaa ggtaaatgaa 780
gagattccaa gagaatattg ggagattggt tcaaaaattc ttgtgagagt atattctatt 840
actaaaaagt ttaattag                                     858

```

<210> 219

<211> 762

<212> DNA

<213> Homo sapiens

<400> 219

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tttgtaata ttattcaagt aggcctttttt attactttta aatcttttga gccaaagggtg 60
gataaaatta gttttaattt ttccagatgg gcaaaaaatt cttttttttc agcaggggct 120
tttttcaatt tgtttaaaag tttgttaaaa gttgttataa tatgcttgat atattatttt 180
attatagaaa acaatatagg caaaatttct aagcttttcgg agtatacact tcaatctgga 240
atttctattg tgtagtgat tgcctataag atatgttttt tttcagtaat gtttttggca 300
attgtagggg tgtttgatta tttgtttcaa agatctcagt acattgagag tttgaaaatg 360
acaaaagaag aggtaaaaga ggaagaaaag gaaatggaag gtgacctttt acttcgatct 420
agaataaaag agagaatgag gggtattttta agtaccatt taagagtagc tattcctcaa 480
gcagatgtag taattacaaa tccagaacat tttgcagttg ctattaaatg ggatagcgaa 540
acaatgttag ctccaaagggt gcttgcaaaa ggtcaagatg aaatagctct cacaattaaa 600
aaaattgcaa gagaaaataa tgttccttta atggaaaata agctccttgc aagagctctt 660
tatgctaatt ttaaggttaa tgaagagatt ccaagagaat attgggagat tgtttcaaaa 720
attcttgtga gagtatatcc tattactaaa aagtttaatt ag                                     762

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<210> 220

<211> 155

<212> PRT

<213> Homo sapiens

<400> 220

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Met Phe Thr Leu Ser Phe Val Leu Ile Asn Phe Ile Ile Thr Gly Ile
  1           5           10           15

```

```

Leu Ile Leu Met Leu Glu Phe Asn Phe Leu Lys Val Asp Phe Lys Gly
          20           25           30

```

```

Asn Ile Leu Leu Ala Gly Ile Phe Met Gly Leu Met Gln Gly Leu Gly
          35           40           45

```

```

Ala Leu Pro Gly Ile Ser Arg Ser Gly Ile Thr Ile Phe Ser Ala Ser
          50           55           60

```

```

Val Ile Gly Phe Asn Arg Lys Ser Ala Phe Glu Ile Ser Phe Leu Ser
          65           70           75           80

```

```

Leu Ile Pro Ile Val Phe Gly Ala Ile Leu Leu Lys His Lys Glu Phe
          85           90           95

```

```

Tyr Asp Ile Phe Met Val Leu Asn Phe Phe Glu Ile Asn Leu Gly Ala
          100           105           110

```

```

Leu Val Ala Phe Val Val Gly Ile Phe Ser Ile Asn Phe Phe Phe Lys

```

115 120 125

Met Leu Asn Asn Lys Lys Leu Tyr Tyr Phe Ser Ile Tyr Leu Phe Ala  
130 135 140

Leu Ser Ile Ile Val Cys Tyr Phe Val Arg Ile  
145 150 155

<210> 221  
<211> 143  
<212> PRT  
<213> Homo sapiens

<400> 221  
Ile Thr Gly Ile Leu Ile Leu Met Leu Glu Phe Asn Phe Leu Lys Val  
1 5 10 15

Asp Phe Lys Gly Asn Ile Leu Leu Ala Gly Ile Phe Met Gly Leu Met  
20 25 30

Gln Gly Leu Gly Ala Leu Pro Gly Ile Ser Arg Ser Gly Ile Thr Ile  
35 40 45

Phe Ser Ala Ser Val Ile Gly Phe Asn Arg Lys Ser Ala Phe Glu Ile  
50 55 60

Ser Phe Leu Ser Leu Ile Pro Ile Val Phe Gly Ala Ile Leu Leu Lys  
65 70 75 80

His Lys Glu Phe Tyr Asp Ile Phe Met Val Leu Asn Phe Phe Glu Ile  
85 90 95

Asn Leu Gly Ala Leu Val Ala Phe Val Val Gly Ile Phe Ser Ile Asn  
100 105 110

Phe Phe Phe Lys Met Leu Asn Asn Lys Lys Leu Tyr Tyr Phe Ser Ile  
115 120 125

Tyr Leu Phe Ala Leu Ser Ile Ile Val Cys Tyr Phe Val Arg Ile  
130 135 140

<210> 222  
<211> 468  
<212> DNA  
<213> Homo sapiens

<400> 222  
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ctagaatttta attttttaaa agttgatttt aaaggtaata ttttgtagc aggaattttt 120  
atggggctga tgcaaggcct gggtgcgctt ccaggaatct ctcgttcagg aattacgatc 180  
ttttcggcat cggttatttg atttaataga aaaagtgcatt ttgaaatttc atttttatct 240  
ttaattccaa tagtttttgg agcgatttta ttaaaacata aagaatttta tgatattttt 300  
atggttttta atttttttga aataaactta ggagcattag ttgcttttgt tgttggtatt 360  
ttctcaataa atttcttttt taaaatgctt aataacaaaa aactgtatta ttttctata 420  
tattttatttg cactttcaat tatagtttgt tattttgta gaatatga 468

<210> 223  
<211> 432

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 223

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aatattttgt tagcaggaat ttttatgggg ctgatgcaag gcttgggtgc gcttccagga 120
atctctcggt caggaattac gatcttttcg gcacggtta ttggatttaa tagaaaaagt 180
gcatttgaaa ttccattttt atctttaatt ccaatagttt ttggagcgat tttattaaaa 240
cataaagaat tttatgatat ttttatgggt ttaaattttt ttgaaataaa cttaggagca 300
ttagttgctt ttgttggttg tattttctca ataaatttct tttttaaaat gcttaataac 360
aaaaaactgt attatttttc tatatattta ttgcacttt caattatagt ttgttatttt 420
gttagaatat ga 432

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&lt;210&gt; 224

&lt;211&gt; 508

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 224

```

Met Ile Val Leu Leu Ile Ser Ile Gly Cys Ala Asn Ala Val His Ile
  1             5             10             15

```

```

Ile Asn Glu Ile Phe Lys Leu Ile Lys Lys Glu Gln Leu Ser Lys Glu
      20             25             30

```

```

Ser Ile Lys Ala Thr Ile Lys Lys Leu Lys Thr Pro Ile Leu Leu Thr
      35             40             45

```

```

Ser Phe Thr Thr Ala Phe Gly Phe Leu Ser Leu Thr Thr Ser Ser Ile
      50             55             60

```

```

Asn Ala Tyr Lys Thr Met Gly Ile Phe Met Ser Ile Gly Val Ile Ile
      65             70             75             80

```

```

Ser Met Ile Ile Ser Leu Thr Val Leu Pro Gly Ile Ile Thr Leu Ile
      85             90             95

```

```

Pro Phe Ala Lys Lys Lys Ser Phe Glu Lys Glu Lys Glu Asn Lys Leu
      100            105            110

```

```

Asn Lys Ile Ser Phe Leu Glu Arg Leu Ala Lys Leu Asn Thr Gln Ile
      115            120            125

```

```

Thr Lys Ser Ile Leu Lys Arg Lys Tyr Thr Ser Ser Ile Met Val Leu
      130            135            140

```

```

Ile Ile Leu Gly Ile Ser Phe Val Gly Leu Leu Lys Ile Glu Ile Asn
      145            150            155            160

```

```

Phe Asp Glu Lys Asp Tyr Phe Lys Glu Ser Thr Ser Val Lys Lys Thr
      165            170            175

```

```

Leu Asn Leu Met Gln Lys Glu Met Gly Gly Ile Ser Ile Phe Lys Ile
      180            185            190

```

```

Glu Ile Glu Gly Arg Pro Gly Glu Phe Lys Asn Ala Lys Ala Met Gln
      195            200            205

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Ile Leu Asp Leu Ile Thr Asp Lys Leu Asp Ala Phe Ser Ala Lys Thr  
 210 215 220  
 Gln Ser Ser Ser Ile Asn Gly Ile Leu Lys Phe Thr Asn Phe Lys Ile  
 225 230 235 240  
 Lys Lys Glu Ser Pro Leu Glu Tyr Lys Leu Pro Glu Asn Lys Ile Ile  
 245 250 255  
 Leu Asn Lys Leu Ile Asn Leu Ile Asp Lys Ser Asp Trp Thr Lys Asp  
 260 265 270  
 Asn Lys Arg Met Tyr Ile Asn Asp Asp Trp Ser Leu Ile Ser Ile Ile  
 275 280 285  
 Val Arg Ile Glu Asp Asn Ser Thr Glu Gly Ile Lys Lys Phe Glu Lys  
 290 295 300  
 Tyr Ala Ile Asn Thr Ile Asn Glu Tyr Met Lys Asn Asn Lys Tyr His  
 305 310 315 320  
 Phe Ser Gly Val Tyr Asp Lys Val Leu Ile Ala Lys Thr Met Val Lys  
 325 330 335  
 Glu Gln Val Ile Asn Ile Ile Thr Thr Leu Gly Ser Ile Thr Leu Leu  
 340 345 350  
 Leu Met Phe Phe Phe Lys Ser Ile Lys Thr Gly Ile Ile Ile Ala Ile  
 355 360 365  
 Pro Val Ala Trp Ser Val Phe Leu Asn Phe Ala Val Met Arg Leu Phe  
 370 375 380  
 Gly Ile Thr Leu Asn Pro Ala Thr Ala Thr Ile Ala Ser Val Ser Met  
 385 390 395 400  
 Gly Val Gly Val Asp Tyr Ser Ile His Phe Phe Asn Thr Phe Ile Leu  
 405 410 415  
 Gln Tyr Gln Lys Asn Gln Ile Tyr Lys Thr Ala Leu Leu Glu Ser Ile  
 420 425 430  
 Pro Asn Val Phe Asn Gly Ile Phe Ala Asn Ser Ile Ser Val Gly Ile  
 435 440 445  
 Gly Phe Leu Thr Leu Thr Phe Ser Ser Tyr Lys Ile Ile Ser Thr Leu  
 450 455 460  
 Gly Ala Ile Ile Ala Phe Thr Met Leu Thr Thr Ser Leu Ala Ser Leu  
 465 470 475 480  
 Thr Leu Leu Pro Leu Leu Ile Tyr Leu Phe Lys Pro Arg Val Lys Leu  
 485 490 495  
 Ala Ser Asn Asn Asn Phe Lys Lys Leu Lys Gln Glx  
 500 505

&lt;211&gt; 442

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 225

Tyr Lys Thr Met Gly Ile Phe Met Ser Ile Gly Val Ile Ile Ser Met  
 1 5 10 15  
 Ile Ile Ser Leu Thr Val Leu Pro Gly Ile Ile Thr Leu Ile Pro Phe  
 20 25 30  
 Ala Lys Lys Lys Ser Phe Glu Lys Glu Lys Glu Asn Lys Leu Asn Lys  
 35 40 45  
 Ile Ser Phe Leu Glu Arg Leu Ala Lys Leu Asn Thr Gln Ile Thr Lys  
 50 55 60  
 Ser Ile Leu Lys Arg Lys Tyr Thr Ser Ser Ile Met Val Leu Ile Ile  
 65 70 75 80  
 Leu Gly Ile Ser Phe Val Gly Leu Leu Lys Ile Glu Ile Asn Phe Asp  
 85 90 95  
 Glu Lys Asp Tyr Phe Lys Glu Ser Thr Ser Val Lys Lys Thr Leu Asn  
 100 105 110  
 Leu Met Gln Lys Glu Met Gly Gly Ile Ser Ile Phe Lys Ile Glu Ile  
 115 120 125  
 Glu Gly Arg Pro Gly Glu Phe Lys Asn Ala Lys Ala Met Gln Ile Leu  
 130 135 140  
 Asp Leu Ile Thr Asp Lys Leu Asp Ala Phe Ser Ala Lys Thr Gln Ser  
 145 150 155 160  
 Ser Ser Ile Asn Gly Ile Leu Lys Phe Thr Asn Phe Lys Ile Lys Lys  
 165 170 175  
 Glu Ser Pro Leu Glu Tyr Lys Leu Pro Glu Asn Lys Ile Ile Leu Asn  
 180 185 190  
 Lys Leu Ile Asn Leu Ile Asp Lys Ser Asp Trp Thr Lys Asp Asn Lys  
 195 200 205  
 Arg Met Tyr Ile Asn Asp Asp Trp Ser Leu Ile Ser Ile Ile Val Arg  
 210 215 220  
 Ile Glu Asp Asn Ser Thr Glu Gly Ile Lys Lys Phe Glu Lys Tyr Ala  
 225 230 235 240  
 Ile Asn Thr Ile Asn Glu Tyr Met Lys Asn Asn Lys Tyr His Phe Ser  
 245 250 255  
 Gly Val Tyr Asp Lys Val Leu Ile Ala Lys Thr Met Val Lys Glu Gln  
 260 265 270  
 Val Ile Asn Ile Ile Thr Thr Leu Gly Ser Ile Thr Leu Leu Met  
 275 280 285

Phe Phe Phe Lys Ser Ile Lys Thr Gly Ile Ile Ile Ala Ile Pro Val  
 290 295 300

Ala Trp Ser Val Phe Leu Asn Phe Ala Val Met Arg Leu Phe Gly Ile  
 305 310 315 320

Thr Leu Asn Pro Ala Thr Ala Thr Ile Ala Ser Val Ser Met Gly Val  
 325 330 335

Gly Val Asp Tyr Ser Ile His Phe Phe Asn Thr Phe Ile Leu Gln Tyr  
 340 345 350

Gln Lys Asn Gln Ile Tyr Lys Thr Ala Leu Leu Glu Ser Ile Pro Asn  
 355 360 365

Val Phe Asn Gly Ile Phe Ala Asn Ser Ile Ser Val Gly Ile Gly Phe  
 370 375 380

Leu Thr Leu Thr Phe Ser Ser Tyr Lys Ile Ile Ser Thr Leu Gly Ala  
 385 390 395 400

Ile Ile Ala Phe Thr Met Leu Thr Thr Ser Leu Ala Ser Leu Thr Leu  
 405 410 415

Leu Pro Leu Leu Ile Tyr Leu Phe Lys Pro Arg Val Lys Leu Ala Ser  
 420 425 430

Asn Asn Asn Phe Lys Lys Leu Lys Gln Glx  
 435 440

<210> 226

<211> 1524

<212> DNA

<213> Homo sapiens

<400> 226

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tttaaattaa taaaaaaga acagctctca aaagaatcca taaaagcaac aattaaataa 120
cttaaaacac ccattcgtct aacatctttt acaactgcat ttggattttt atctcttaca 180
acctcttcaa ttaatgccta caaaacaatg ggtattttca tgtcaattgg agtaattatc 240
tcaatgataa tctcat AAC cgttttacct ggaataataa cattaatccc atttgcaaaa 300
aaaaagtctt ttgaaaaaga aaaagaaaat aaactaaata aaatatcctt ctttgaaaga 360
cttgccaaac taaatacgca aataacaaaa tctatattaa aaagaaaata tacatcctct 420
ataatgggtc tcatcatact gggaattttc ttgttaggtc ttttaaaaaat cgaaatcaat 480
tttgatgaaa aagattactt taaagaaagc acaagtgtaa aaaaaacatt aaacctaatg 540
caaaaagaaa tgggggggaat atcgattttc aaaatagaaa ttgaaggcag gcccggtgaa 600
tttaaaaatg ctaaagcaat gcaaatatta gacttaatta cagataagct tgatgcattt 660
tctgcaaaaa ctcaatctag ttctattaat ggcattttta aatttacaata ttttaaaatt 720
aaaaaagaat cccactaga gtataaactg cctgaaaata aaattatact aaacaaacta 780
ataaatttga tagataaaaag cgattggact aaggacaata aaagaatgta cattaacgat 840
gactgggtcat taatatctat catagtaaga attgaagaca actcaaccga aggaataaaa 900
aaatttgaaa aatatgctat taacacaatt aatgaatata tgaaaaataa taaatatcat 960
ttctcaggtg tttatgataa ggtattaata gctaaaacaa tggtaaaaga acagggttata 1020
aacattataa caactcttgg atcaataaca ctactactta tgtttttctt taaatctata 1080
aaaaccggaa taattattgc aatcccagta gcatggtcag tgttttttaa ctttgctgta 1140
atgagattat ttgggataac cttaaaccac gcaacggcaa caattgcatt tgtaagcatg 1200
ggagtaggag tagattattc aattcatttt ttcaatacat ttatttttaca ataccaaaaa 1260

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aatcaaactct acaaaactgc acttcttgaa tcaataccca atgtatttaa tggaatattt 1320
gcaaattctta tttctgttgg aataggattt ttaactctaa ctttttcgtc ttataaaaata 1380
atatcaactc ttggagcaat aattgctttt acaatgctaa cgacatctct tgcataacta 1440
actcttcttc cattattaat ttatttattt aaacctagag taaagctagc ctcaaacaac 1500
aattttaaaa aattaaaaca ataa 1524

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<210> 227

<211> 1326

<212> DNA

<213> Homo sapiens

<400> 227

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accgtttttac ctggaataat aacattaatc ccatttgcaa aaaaaaagtc ttttgaaaaa 120
gaaaaagaaa ataaactaaa taaaatatcc ttccttgaaa gacttgccaa actaaatagc 180
caataacaaa aatctatatt aaaaagaaaa tatacatcct ctataatggc cctcatcata 240
ctgggaatttt cttttgtagg tcttttataaa atcgaaatca attttgatga aaaagattac 300
tttaaagaaa gcacaagtgt aaaaaaaaaca ttaaacctaa tgcaaaaaga aatgggggga 360
atategatttt tcaaaataga aattgaaggc aggcccggtg aatttataaaa tgctaaagca 420
atgcaaatat tagacttaat tacagataag ctgtagcat tttctgcaaa aactcaatct 480
agttctatta atggcatttt aaaattttaca aatttttaaaa ttaaaaaaga atccccacta 540
gagtataaac tgcctgaaaa taaaattata ctaaacaaac taataaattt gatagataaa 600
agcgattgga ctaggacaa taaaagaatg tacattaacg atgactggtc attaatatct 660
atcatagtaa gaattgaaga caactcaacc gaaggaataa aaaaatttga aaaatatgct 720
attaacacaa ttaatgaata tatgaaaaat aataaatatc atttctcagg tgtttatgat 780
aaggatttaa tagctaaaac aatggtaaaa gaacagggtta taaacattat aacaactctt 840
ggatcaataa cactactact tatgtttttc tttaaatcta taaaaaccgg aataattatt 900
gcaatcccag tagcatggtc agtgttttta aactttgctg taatgagatt atttgggata 960
accctaaacc ccgcaacggc aacaattgca tctgtaagca tgggagtagg agtagattat 1020
tcaattcatt ttttcaatac atttatttta caataccaaa aaaatcaaat ctacaaaact 1080
gcacttcttg aatcaatacc caatgtattt aatggaatat ttgcaaattc tatttctgtt 1140
ggaataggat ttttaactct aacattttcg tcttataaaa taatatcaac tcttgagca 1200
ataattgctt ttacaatgct aacgacatct cttgcatcac taactcttct tccattatta 1260
atttatttat ttaaacctag agtaaagcta gcctcaaaca acaattttta aaaattaaaa 1320
caataa 1326

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<210> 228

<211> 254

<212> PRT

<213> Homo sapiens

<400> 228

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Met Asn Tyr Thr Lys Phe Gln Glu Phe Ile Ser Glu Phe Leu Gly Thr
 1          5          10          15

Phe Ile Leu Leu Ala Leu Gly Thr Gly Ser Val Ala Met Thr Val Leu
 20          25          30

Phe Ser Ser Ser Pro Glu Ile Pro Gly Glu Ile Ile Lys Gly Gly Tyr
 35          40          45

Thr Asn Ile Val Phe Gly Trp Gly Leu Gly Val Thr Phe Gly Ile Tyr
 50          55          60

Thr Ala Ala Arg Met Ser Gly Ala His Leu Asn Pro Ala Val Ser Ile
 65          70          75          80

Gly Leu Ala Ser Val Gly Lys Phe Pro Val Ser Lys Leu Leu His Tyr

```

					85				90						95
Ile	Val	Ala	Gln	Ile	Leu	Gly	Ala	Phe	Thr	Gly	Ala	Leu	Met	Thr	Leu
			100					105					110		
Val	Val	Phe	Tyr	Pro	Lys	Trp	Ile	Glu	Met	Asp	Pro	Gly	Leu	Glu	Asn
		115					120					125			
Thr	Gln	Gly	Ile	Met	Ala	Thr	Phe	Pro	Ala	Val	Pro	Gly	Phe	Leu	Pro
	130					135					140				
Gly	Phe	Ile	Asp	Gln	Ile	Phe	Gly	Thr	Phe	Leu	Leu	Met	Phe	Leu	Ile
145					150					155					160
Ser	Val	Val	Gly	Asp	Phe	Thr	Lys	Lys	His	Ser	Asp	Asn	Pro	Phe	Ile
				165					170					175	
Pro	Phe	Ile	Val	Gly	Ala	Val	Val	Leu	Ser	Ile	Gly	Ile	Ser	Phe	Gly
			180					185					190		
Gly	Met	Asn	Gly	Tyr	Ala	Ile	Asn	Pro	Ala	Arg	Asp	Leu	Gly	Pro	Arg
		195					200					205			
Ile	Leu	Leu	Leu	Phe	Ala	Gly	Phe	Lys	Asn	His	Gly	Phe	Asn	Asn	Leu
	210					215					220				
Ser	Ile	Val	Ile	Val	Pro	Ile	Ile	Gly	Pro	Ile	Ile	Gly	Ala	Ile	Leu
225					230					235					240
Gly	Ala	Thr	Ile	Tyr	Glu	Phe	Thr	Leu	Lys	Asn	Asn	Lys	Asp		
				245					250						
<210>	229														
<211>	214														
<212>	PRT														
<213>	Homo sapiens														
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Gly	Glu	Ile	Ile	Lys	Gly	Gly	Tyr	Thr	Asn	Ile	Val	Phe	Gly	Trp	Gly
1				5					10					15	
Leu	Gly	Val	Thr	Phe	Gly	Ile	Tyr	Thr	Ala	Ala	Arg	Met	Ser	Gly	Ala
			20					25					30		
His	Leu	Asn	Pro	Ala	Val	Ser	Ile	Gly	Leu	Ala	Ser	Val	Gly	Lys	Phe
		35					40					45			
Pro	Val	Ser	Lys	Leu	Leu	His	Tyr	Ile	Val	Ala	Gln	Ile	Leu	Gly	Ala
	50					55					60				
Phe	Thr	Gly	Ala	Leu	Met	Thr	Leu	Val	Val	Phe	Tyr	Pro	Lys	Trp	Ile
65					70					75					80
Glu	Met	Asp	Pro	Gly	Leu	Glu	Asn	Thr	Gln	Gly	Ile	Met	Ala	Thr	Phe
				85					90					95	
Pro	Ala	Val	Pro	Gly	Phe	Leu	Pro	Gly	Phe	Ile	Asp	Gln	Ile	Phe	Gly
			100					105					110		



Thr Phe Leu Leu Met Phe Leu Ile Ser Val Val Gly Asp Phe Thr Lys  
 115 120 125

Lys His Ser Asp Asn Pro Phe Ile Pro Phe Ile Val Gly Ala Val Val  
 130 135 140

Leu Ser Ile Gly Ile Ser Phe Gly Gly Met Asn Gly Tyr Ala Ile Asn  
 145 150 155 160

Pro Ala Arg Asp Leu Gly Pro Arg Ile Leu Leu Leu Phe Ala Gly Phe  
 165 170 175

Lys Asn His Gly Phe Asn Asn Leu Ser Ile Val Ile Val Pro Ile Ile  
 180 185 190

Gly Pro Ile Ile Gly Ala Ile Leu Gly Ala Thr Ile Tyr Glu Phe Thr  
 195 200 205

Leu Lys Asn Asn Lys Asp  
 210

<210> 230

<211> 765

<212> DNA

<213> Homo sapiens

<400> 230

atgaattata	caaaattcca	agaatttata	tcggaatttt	tgggaacatt	tatcctattg	60
gctctaggaa	ctggatctgt	tgcaatgaca	gtattatttt	cctcaagtcc	cgaaatacca	120
ggagaaataa	taaaaggagg	atatacaaat	atagtatttg	gatggggatt	gggtgtaacg	180
tttggtattt	acacagcagc	aagaatgagc	ggagcacacc	taaaccagc	tgtagcata	240
ggattagcaa	gtgttgga	gtttcccgtt	tcaaaacttt	tacattacat	tgtagcacia	300
atattaggag	cttttacagg	tgcatatgat	acacttgctg	tattttatcc	taaatggata	360
gaaatggatc	ctggcttaga	aaataactcaa	ggaataatgg	caactttccc	tgctgttcct	420
ggatttttgc	ctggatttat	tgatcaaatt	tttggaactt	ttttgcta	gtttttaatt	480
tctgttgttg	gagattttac	aaaaaaacac	agcgacaatc	cattttattcc	ttttattgta	540
ggagcagtgg	ttttatcaat	agggataagt	ttcggaggaa	tgaacgggta	tgctattaat	600
cctgcaaggg	atctgggacc	aagaatttta	ctcttatttg	ctggatttaa	aaatcacgga	660
tttaacaatc	taagtatagt	tattgtacca	ataattggcc	caataattgg	agcaattttg	720
ggagctacaa	tttacgaatt	tacactaaaa	aataacaaag	actaa		765

<210> 231

<211> 645

<212> DNA

<213> Homo sapiens

<400> 231

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ggattagcaa	gtgttgga	gtttcccgtt	tcaaaacttt	tacattacat	tgtagcacia	180
atattaggag	cttttacagg	tgcatatgat	acacttgctg	tattttatcc	taaatggata	240
gaaatggatc	ctggcttaga	aaataactcaa	ggaataatgg	caactttccc	tgctgttcct	300
ggatttttgc	ctggatttat	tgatcaaatt	tttggaactt	ttttgcta	gtttttaatt	360
tctgttgttg	gagattttac	aaaaaaacac	agcgacaatc	cattttattcc	ttttattgta	420
ggagcagtgg	ttttatcaat	agggataagt	ttcggaggaa	tgaacgggta	tgctattaat	480
cctgcaaggg	atctgggacc	aagaatttta	ctcttatttg	ctggatttaa	aaatcacgga	540
tttaacaatc	taagtatagt	tattgtacca	ataattggcc	caataattgg	agcaattttg	600

ggagctacaa ttacgaatt tacactaaaa aataacaaag actaa

645

<210> 232

<211> 257

<212> PRT

<213> Homo sapiens

<400> 232

Met Arg Arg Leu Phe Leu Leu Tyr Ile Leu Cys Ser Phe Val Phe Leu  
1 5 10 15

Asn Leu Phe Ala Gln Gly Ser Ser Ser Tyr Ile Asp Lys Gln Lys Glu  
20 25 30

Leu Ala Ile Phe Tyr Tyr Glu Val Gly Gln Arg Tyr Ile Asn Val Gly  
35 40 45

Lys Ile Lys Lys Gly Lys Leu Phe Gln Ala Lys Ala Leu Lys Ile Tyr  
50 55 60

Pro Asp Leu Lys Lys Gly Phe Asp Ile Lys Leu Ala Val Lys Glu Leu  
65 70 75 80

Asp Ala Arg Ile Lys Asp Asp Asn Pro Lys Val Val Met Leu Glu Asp  
85 90 95

Ile Lys Leu Glu Glu Ile Pro Gly Ile Val His Glu Lys Ile Glu Ile  
100 105 110

Asn Asp Phe Thr Asn Ala Pro Lys Ile Glu Tyr Ile Ala Gln Arg Glu  
115 120 125

Arg Ser Lys Asn Gln Asp Lys Ile Ile Lys Phe Gln Phe Gly Lys Phe  
130 135 140

Ala Arg Ala Leu Ile Ser Arg Asn Phe Asp Leu Phe Asp Ser Val Ile  
145 150 155 160

Ala Asp Lys Val Asn Val Met Gly Gln Phe Glu Ser Lys Asn Asp Phe  
165 170 175

Ile Ser Thr Leu Ser Ser Ala Ser Ser Lys Ala Asp Ala Asp Glu Leu  
180 185 190

Glu Tyr Leu Ser Val Asp Asp Tyr Tyr Asp Leu Lys Ser Leu Lys Ile  
195 200 205

Ser Lys Ser Asn Asp Thr Ser Phe Ala Val Asn Val Asn Ala Lys Lys  
210 215 220

Asn Asp Val Thr Lys Asn Phe Pro Phe Trp Lys Glu Arg Gln Thr Leu  
225 230 235 240

Ile Phe Thr Thr Glu Asp Asp Asn Asn Trp Phe Leu Ser Ser Ile Asn  
245 250 255

Glx

<210> 233  
 <211> 257  
 <212> PRT  
 <213> Homo sapiens

<400> 233

Met Arg Arg Leu Phe Leu Leu Tyr Ile Leu Cys Ser Phe Val Phe Leu  
 1 5 10 15  
 Asn Leu Phe Ala Gln Gly Ser Ser Ser Tyr Ile Asp Lys Gln Lys Glu  
 20 25 30  
 Leu Ala Ile Phe Tyr Tyr Glu Val Gly Gln Arg Tyr Ile Asn Val Gly  
 35 40 45  
 Lys Ile Lys Lys Gly Lys Leu Phe Gln Ala Lys Ala Leu Lys Ile Tyr  
 50 55 60  
 Pro Asp Leu Lys Lys Gly Phe Asp Ile Lys Leu Ala Val Lys Glu Leu  
 65 70 75 80  
 Asp Ala Arg Ile Lys Asp Asp Asn Pro Lys Val Val Met Leu Glu Asp  
 85 90 95  
 Ile Lys Leu Glu Glu Ile Pro Gly Ile Val His Glu Lys Ile Glu Ile  
 100 105 110  
 Asn Asp Phe Thr Asn Ala Pro Lys Ile Glu Tyr Ile Ala Gln Arg Glu  
 115 120 125  
 Arg Ser Lys Asn Gln Asp Lys Ile Ile Lys Phe Gln Phe Gly Lys Phe  
 130 135 140  
 Ala Arg Ala Leu Ile Ser Arg Asn Phe Asp Leu Phe Asp Ser Val Ile  
 145 150 155 160  
 Ala Asp Lys Val Asn Val Met Gly Gln Phe Glu Ser Lys Asn Asp Phe  
 165 170 175  
 Ile Ser Thr Leu Ser Ser Ala Ser Ser Lys Ala Asp Ala Asp Glu Leu  
 180 185 190  
 Glu Tyr Leu Ser Val Asp Asp Tyr Tyr Asp Leu Lys Ser Leu Lys Ile  
 195 200 205  
 Ser Lys Ser Asn Asp Thr Ser Phe Ala Val Asn Val Asn Ala Lys Lys  
 210 215 220  
 Asn Asp Val Thr Lys Asn Phe Pro Phe Trp Lys Glu Arg Gln Thr Leu  
 225 230 235 240  
 Ile Phe Thr Thr Glu Asp Asp Asn Asn Trp Phe Leu Ser Ser Ile Asn  
 245 250 255

Glx

<210> 234  
 <211> 771  
 <212> DNA  
 <213> Homo sapiens

<400> 234  
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 caaggtagtt cttcttatat tgataagcaa aaagagcttg ctatttttta ttatgagggt 120  
 ggtcaaagat atataaacgt tggtaaaatt aaaaaaggaa agctttttca agcaaaagct 180  
 ttaaagattt atccagattt gaaaaagggg tttgatatca agcttgcagt taaagagctt 240  
 gatgctagga ttaaagatga caatcccaag gttgttatgc ttgaggatat taagcttgag 300  
 gagatacctg gaatagtgcg cgaaaaaata gaaatcaatg attttcaaaa tgctcctaaa 360  
 atagaatata ttgctcaaag agagagaagc aaaaatcaag ataaaattat taagtttcaa 420  
 tttggaaaagt ttgcaagagc ttttaatttct aggaactttg atttgtttga ttcagttatt 480  
 gcggataaag ttaacgttat ggggtcaattt gaatcaaaaa atgattttat atcaacttta 540  
 tcaagtgtctt catctaaggc cgatgctgat gagtttagagt atttatcagt tgatgattat 600  
 tacgatttaa agtcttttaa aattttcaaaa tccaacgata cttcttttgc tgtaaatgtt 660  
 aatgccaaaa aaaatgatgt tactaaaaat tttccatttt ggaaagaacg tcaaaacttta 720  
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<210> 235  
 <211> 711  
 <212> DNA  
 <213> Homo sapiens

<400> 235  
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 ttaaagattt atccagattt gaaaaagggg tttgatatca agcttgcagt taaagagctt 180  
 gatgctagga ttaaagatga caatcccaag gttgttatgc ttgaggatat taagcttgag 240  
 gagatacctg gaatagtgcg cgaaaaaata gaaatcaatg attttcaaaa tgctcctaaa 300  
 atagaatata ttgctcaaag agagagaagc aaaaatcaag ataaaattat taagtttcaa 360  
 tttggaaaagt ttgcaagagc ttttaatttct aggaactttg atttgtttga ttcagttatt 420  
 gcggataaag ttaacgttat ggggtcaattt gaatcaaaaa atgattttat atcaacttta 480  
 tcaagtgtctt catctaaggc cgatgctgat gagtttagagt atttatcagt tgatgattat 540  
 tacgatttaa agtcttttaa aattttcaaaa tccaacgata cttcttttgc tgtaaatgtt 600  
 aatgccaaaa aaaatgatgt tactaaaaat tttccatttt ggaaagaacg tcaaaacttta 660  
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<210> 236  
 <211> 668  
 <212> PRT  
 <213> Homo sapiens

<400> 236  
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 Leu His Ala Gln Gly Ile Val Thr Asn Lys Asp Ala Gln Glu Glu Phe  
 20 25 30  
 Lys Trp Ala Leu Asn Ser Tyr Asn Asn Gly Ile Tyr Asp Asp Ala Leu  
 35 40 45  
 Leu Ser Phe Lys Lys Ile Leu Ser Phe Asp Pro Asn Asn Leu Asp Tyr  
 50 55 60  
 His Phe Trp Thr Gly Asn Val Tyr Tyr Arg Leu Gly Tyr Val Glu Glu

65					70					75				80	
Ala	Leu	Met	Glu	Trp	Arg	Asn	Leu	Lys	Asp	Gln	Gly	Tyr	Lys	Val	Pro
				85					90					95	
Tyr	Leu	Arg	His	Leu	Ile	Ser	Thr	Ile	Glu	Gln	Arg	Arg	Gly	Ile	Phe
			100					105					110		
Ser	Asn	Tyr	Glu	Leu	Asn	Phe	Lys	Lys	Leu	Val	Lys	Val	Ala	Ser	Leu
		115					120					125			
Asp	Asn	Ser	Ile	Tyr	Lys	Arg	Pro	His	Gly	Tyr	Gln	Ile	Thr	Ser	Leu
	130					135					140				
Arg	Ala	Asp	Lys	Tyr	Gly	Gly	Tyr	Tyr	Ala	Ala	Asn	Phe	Val	Gly	Asn
145					150					155					160
Glu	Ile	Leu	Tyr	Phe	Asp	Val	Asn	Asn	Asn	Val	Asn	Ala	Leu	Val	Lys
				165					170					175	
Asp	Gly	Phe	Ser	Tyr	Leu	Lys	Ser	Pro	Tyr	Asp	Val	Ile	Glu	Ala	Asn
			180					185					190		
Asn	Leu	Leu	Tyr	Val	Thr	Leu	Tyr	Ser	Ser	Asp	Glu	Ile	Gly	Val	Tyr
		195					200					205			
Asp	Lys	Val	Leu	Gly	Val	Lys	Arg	Lys	Ser	Ile	Gly	Asn	Lys	Gly	Thr
	210					215					220				
Lys	Asp	Gly	Glu	Leu	Leu	Ala	Pro	Gln	Tyr	Met	Ala	Ile	Asp	Lys	Arg
225					230					235					240
Asn	Tyr	Ile	Tyr	Val	Ser	Glu	Trp	Gly	Asn	Lys	Arg	Val	Ser	Lys	Phe
				245					250					255	
Gly	Leu	Glu	Gly	Asp	Phe	Ile	Leu	His	Phe	Gly	Ser	Arg	Thr	Ser	Gly
			260				265						270		
Tyr	Lys	Gly	Leu	Leu	Gly	Pro	Thr	Gly	Val	Thr	Tyr	Leu	Asn	Glu	Asn
		275				280						285			
Ile	Tyr	Val	Ala	Asp	Ser	Leu	Arg	Asn	Thr	Ile	Glu	Val	Phe	Asp	Thr
	290					295					300				
Ser	Gly	Asn	His	Leu	Tyr	Ser	Val	Phe	Thr	Ser	Ile	Glu	Gly	Ile	Glu
305					310					315					320
Gly	Leu	Ser	Ser	Asp	Phe	Val	Gly	Asn	Asn	Val	Ile	Val	Ser	Ser	Lys
				325					330					335	
Asp	Gly	Val	Tyr	Lys	Tyr	Ser	Ile	Ala	Lys	Lys	Thr	Ile	Thr	Lys	Ile
			340					345					350		
Leu	Lys	Ala	Asp	Lys	Met	Asn	Ser	Lys	Ile	Ser	Ser	Ser	Ile	Leu	Asp
		355					360					365			
Ala	Asn	Asn	Gln	Met	Ile	Val	Ser	Asp	Phe	Asn	Asn	Ala	Lys	Val	Ser
	370					375					380				

Val Tyr Lys Ser Asp Ala Ser Leu Tyr Asp Ser Leu Asn Val Asp Val  
 385 390 395 400  
 Arg Arg Ile Ile Arg Leu Gly Gly Pro Lys Ile Tyr Val Glu Leu Asn  
 405 410 415  
 Val Ser Ser Lys Ser Gly Leu Pro Val Val Gly Leu Lys Ser Glu Asn  
 420 425 430  
 Phe Ser Ile Ser Asn Glu Asn Tyr Tyr Ile Val Asn Pro Lys Val Ala  
 435 440 445  
 Tyr Asn Val Asn Ala Ser Lys Asp Ile Asn Ile Ala Val Val Phe Asp  
 450 455 460  
 Lys Ser Ser Tyr Met Lys Lys Tyr Asp Thr Asp Gln Ile Val Gly Leu  
 465 470 475 480  
 Asn Ala Leu Met Glu Leu Ser Lys Asn Lys Asn Phe Ser Phe Ile Asn  
 485 490 495  
 Ala Thr Ser Val Pro Ile Ile Asp Asn Ile Glu Ser Leu Thr Asn Ser  
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 515 520 525  
 Thr Asp Val Ser Leu Lys Leu Ala Gly Ser Gly Leu Met Ser Lys Ser  
 530 535 540  
 Ser Arg Arg Ala Val Val Tyr Phe Ser Gly Gly Ile Leu Asn Arg Lys  
 545 550 555 560  
 Ala Phe Glu Lys Tyr Ser Leu Asp Thr Ile Val Ser Tyr Tyr Lys Asn  
 565 570 575  
 Asn Asp Ile Arg Phe Tyr Leu Ile Leu Phe Gly Asn Asp Pro Ile Asn  
 580 585 590  
 Ser Lys Leu Gln Tyr Leu Val Asn Glu Thr Gly Gly Ala Val Ile Pro  
 595 600 605  
 Phe Ser Ser Tyr Glu Gly Val Ser Lys Val Tyr Asp Leu Ile Leu Glu  
 610 615 620  
 Gln Lys Thr Gly Thr Tyr Leu Leu Glu Tyr Tyr Tyr Pro Gly Pro Gln  
 625 630 635 640  
 Glu Pro Asn Lys Tyr Phe Asn Leu Ser Val Glu Ala Asn Ile Asn Gln  
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&lt;210&gt; 237

&lt;211&gt; 649

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 237

Gln Gly Ile Val Thr Asn Lys Asp Ala Gln Glu Glu Phe Lys Trp Ala  
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Leu Asn Ser Tyr Asn Asn Gly Ile Tyr Asp Asp Ala Leu Leu Ser Phe  
 20 25 30

Lys Lys Ile Leu Ser Phe Asp Pro Asn Asn Leu Asp Tyr His Phe Trp  
 35 40 45

Thr Gly Asn Val Tyr Tyr Arg Leu Gly Tyr Val Glu Glu Ala Leu Met  
 50 55 60

Glu Trp Arg Asn Leu Lys Asp Gln Gly Tyr Lys Val Pro Tyr Leu Arg  
 65 70 75 80

His Leu Ile Ser Thr Ile Glu Gln Arg Arg Gly Ile Phe Ser Asn Tyr  
 85 90 95

Glu Leu Asn Phe Lys Lys Leu Val Lys Val Ala Ser Leu Asp Asn Ser  
 100 105 110

Ile Tyr Lys Arg Pro His Gly Tyr Gln Ile Thr Ser Leu Arg Ala Asp  
 115 120 125

Lys Tyr Gly Gly Tyr Tyr Ala Ala Asn Phe Val Gly Asn Glu Ile Leu  
 130 135 140

Tyr Phe Asp Val Asn Asn Asn Val Asn Ala Leu Val Lys Asp Gly Phe  
 145 150 155 160

Ser Tyr Leu Lys Ser Pro Tyr Asp Val Ile Glu Ala Asn Asn Leu Leu  
 165 170 175

Tyr Val Thr Leu Tyr Ser Ser Asp Glu Ile Gly Val Tyr Asp Lys Val  
 180 185 190

Leu Gly Val Lys Arg Lys Ser Ile Gly Asn Lys Gly Thr Lys Asp Gly  
 195 200 205

Glu Leu Leu Ala Pro Gln Tyr Met Ala Ile Asp Lys Arg Asn Tyr Ile  
 210 215 220

Tyr Val Ser Glu Trp Gly Asn Lys Arg Val Ser Lys Phe Gly Leu Glu  
 225 230 235 240

Gly Asp Phe Ile Leu His Phe Gly Ser Arg Thr Ser Gly Tyr Lys Gly  
 245 250 255

Leu Leu Gly Pro Thr Gly Val Thr Tyr Leu Asn Glu Asn Ile Tyr Val  
 260 265 270

Ala Asp Ser Leu Arg Asn Thr Ile Glu Val Phe Asp Thr Ser Gly Asn  
 275 280 285

His Leu Tyr Ser Val Phe Thr Ser Ile Glu Gly Ile Glu Gly Leu Ser

290					295					300					
Ser	Asp	Phe	Val	Gly	Asn	Asn	Val	Ile	Val	Ser	Ser	Lys	Asp	Gly	Val
305					310					315					320
Tyr	Lys	Tyr	Ser	Ile	Ala	Lys	Lys	Thr	Ile	Thr	Lys	Ile	Leu	Lys	Ala
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Asp	Lys	Met	Asn	Ser	Lys	Ile	Ser	Ser	Ser	Ile	Leu	Asp	Ala	Asn	Asn
			340					345					350		
Gln	Met	Ile	Val	Ser	Asp	Phe	Asn	Asn	Ala	Lys	Val	Ser	Val	Tyr	Lys
		355					360					365			
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		370				375					380				
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385					390					395					400
Lys	Ser	Gly	Leu	Pro	Val	Val	Gly	Leu	Lys	Ser	Glu	Asn	Phe	Ser	Ile
				405					410					415	
Ser	Asn	Glu	Asn	Tyr	Tyr	Ile	Val	Asn	Pro	Lys	Val	Ala	Tyr	Asn	Val
			420					425					430		
Asn	Ala	Ser	Lys	Asp	Ile	Asn	Ile	Ala	Val	Val	Phe	Asp	Lys	Ser	Ser
		435					440					445			
Tyr	Met	Lys	Lys	Tyr	Asp	Thr	Asp	Gln	Ile	Val	Gly	Leu	Asn	Ala	Leu
		450				455					460				
Met	Glu	Leu	Ser	Lys	Asn	Lys	Asn	Phe	Ser	Phe	Ile	Asn	Ala	Thr	Ser
465					470					475					480
Val	Pro	Ile	Ile	Asp	Asn	Ile	Glu	Ser	Leu	Thr	Asn	Ser	Ile	Arg	Asn
				485					490					495	
Thr	Ser	Ser	Leu	Gly	Pro	Tyr	Ser	Thr	Asp	Ala	Val	Lys	Thr	Asp	Val
			500					505					510		
Ser	Leu	Lys	Leu	Ala	Gly	Ser	Gly	Leu	Met	Ser	Lys	Ser	Ser	Arg	Arg
		515					520					525			
Ala	Val	Val	Tyr	Phe	Ser	Gly	Gly	Ile	Leu	Asn	Arg	Lys	Ala	Phe	Glu
		530				535					540				
Lys	Tyr	Ser	Leu	Asp	Thr	Ile	Val	Ser	Tyr	Tyr	Lys	Asn	Asn	Asp	Ile
545					550					555					560
Arg	Phe	Tyr	Leu	Ile	Leu	Phe	Gly	Asn	Asp	Pro	Ile	Asn	Ser	Lys	Leu
				565				570						575	
Gln	Tyr	Leu	Val	Asn	Glu	Thr	Gly	Gly	Ala	Val	Ile	Pro	Phe	Ser	Ser
			580					585					590		
Tyr	Glu	Gly	Val	Ser	Lys	Val	Tyr	Asp	Leu	Ile	Leu	Glu	Gln	Lys	Thr
		595					600					605			



Gly Thr Tyr Leu Leu Glu Tyr Tyr Tyr Pro Gly Pro Gln Glu Pro Asn  
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Lys Tyr Phe Asn Leu Ser Val Glu Ala Asn Ile Asn Gln Gln Thr Gly  
 625 630 635 640

Arg Gly Glu Phe Ala Tyr Phe Ile Asn  
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<210> 238

<211> 2007

<212> DNA

<213> Homo sapiens

<400> 238

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<210> 239

<211> 1950

<212> DNA

<213> Homo sapiens

<400> 239

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aataatccttg attatcattt ttggactggc aatgtttatt atagactggg ttatggtgaa 180
gaagctttta tggaatggag aaattttaaa gatcaaggct ataagggtcc ctatcttaga 240
catttgattt ctactattga gcaaaggaga ggtatttttt caaattatga acttaatttt 300
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cagattacat ctttaagggc tgataagtac ggcggatatt acgctgctaa ctttgtaggc 420
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caagaacctt ataaatattt taatttatct gttgaagcaa atataaatca acagacagga 1920
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&lt;210&gt; 240

&lt;211&gt; 274

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 240

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Met Ile Lys Ser Ile Leu Asp Tyr Leu Leu Thr Leu His Pro Val Leu
  1             5             10             15

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```

Leu Gly Leu Leu Gly Ser Thr Phe Thr Trp Phe Thr Thr Ala Phe Gly
      20             25             30

```

```

Ala Ala Ala Val Phe Phe Phe Arg Lys Val Asp Asn Lys Ile Met Asp
      35             40             45

```

```

Ala Met Leu Gly Phe Ser Ala Gly Ile Met Ile Ala Ala Ser Phe Phe
      50             55             60

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Ser Leu Ile Gln Pro Ala Ile Glu Arg Ala Glu Glu Leu Gly Tyr Ile
      65             70             75             80

```

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Thr Trp Val Pro Ala Val Phe Gly Phe Leu Val Gly Ala Phe Phe Ile
      85             90             95

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Tyr Ile Val Asp Val Phe Val Pro Asp Leu Asp Lys Leu Thr Phe Ile

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100	105	110
Asp Glu Asp Leu Thr Lys His Gly Lys Lys Asp Phe Leu Leu Phe Thr 115 120 125		
Ala Val Thr Leu His Asn Phe Pro Glu Gly Leu Ala Val Gly Val Ala 130 135 140		
Phe Gly Ala Leu Ala Ser Asn Pro Asp Ile Gln Thr Leu Val Gly Ala 145 150 155 160		
Met Leu Leu Thr Leu Gly Ile Gly Ile Gln Asn Ile Pro Glu Gly Ala 165 170 175		
Ala Ile Ser Leu Pro Leu Arg Arg Gly Asn Val Ala Leu Ala Lys Cys 180 185 190		
Phe Asn Tyr Gly Gln Met Ser Gly Leu Val Glu Ile Val Gly Gly Leu 195 200 205		
Met Gly Ala Tyr Ala Val Tyr Ser Phe Thr Arg Ile Leu Pro Phe Ala 210 215 220		
Leu Ala Phe Ser Ala Gly Ala Met Ile Tyr Val Ser Ile Glu Gln Leu 225 230 235 240		
Ile Pro Glu Ala Lys Arg Lys Asp Ile Asp Asn Lys Val Pro Ser Ile 245 250 255		
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Gly Glx

<210> 241  
 <211> 240  
 <212> PRT  
 <213> Homo sapiens

<400> 241  
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 Ile Gln Pro Ala Ile Glu Arg Ala Glu Glu Leu Gly Tyr Ile Thr Trp  
 35 40 45  
 Val Pro Ala Val Phe Gly Phe Leu Val Gly Ala Phe Phe Ile Tyr Ile  
 50 55 60  
 Val Asp Val Phe Val Pro Asp Leu Asp Lys Leu Thr Phe Ile Asp Glu  
 65 70 75 80  
 Asp Leu Thr Lys His Gly Lys Lys Asp Phe Leu Leu Phe Thr Ala Val  
 85 90 95

Thr Leu His Asn Phe Pro Glu Gly Leu Ala Val Gly Val Ala Phe Gly  
 100 105 110  
 Ala Leu Ala Ser Asn Pro Asp Ile Gln Thr Leu Val Gly Ala Met Leu  
 115 120 125  
 Leu Thr Leu Gly Ile Gly Ile Gln Asn Ile Pro Glu Gly Ala Ala Ile  
 130 135 140  
 Ser Leu Pro Leu Arg Arg Gly Asn Val Ala Leu Ala Lys Cys Phe Asn  
 145 150 155 160  
 Tyr Gly Gln Met Ser Gly Leu Val Glu Ile Val Gly Gly Leu Met Gly  
 165 170 175  
 Ala Tyr Ala Val Tyr Ser Phe Thr Arg Ile Leu Pro Phe Ala Leu Ala  
 180 185 190  
 Phe Ser Ala Gly Ala Met Ile Tyr Val Ser Ile Glu Gln Leu Ile Pro  
 195 200 205  
 Glu Ala Lys Arg Lys Asp Ile Asp Asn Lys Val Pro Ser Ile Phe Gly  
 210 215 220  
 Val Ile Gly Phe Thr Leu Met Met Phe Leu Asp Val Ser Leu Gly Glx  
 225 230 235 240

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 <212> DNA  
 <213> Homo sapiens

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 aaaaaagatt ttttactctt tactgctggt actttacata attttccaga aggattggct 420  
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<210> 243  
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 <212> DNA  
 <213> Homo sapiens

<400> 243

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gaagagcttg gatacattac ttgggtgccg gctgtttttg gatttcttgt tggggcattt 180
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caaactttag ttggggctat gcttcttacg cttggtattg gtattcaaaa tattcccgaa 420
ggagcagcta tttctctgcc ttttaagaaga ggtaatgttg ctttggcaaa atgctttaac 480
tatggccaaa tgtcaggatt ggtagaaatt gtgggggggc ttatgggtgc ttatgcggtt 540
tattctttta ctgcaatttt accttttgct ttggcctttt ctgcaggagc tatgatttat 600
gtgtcaattg aacaattaat acctgaagct aagagaaaag acattgacaa taaagtgcc 660
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```

<210> 244

<211> 753

<212> PRT

<213> Homo sapiens

<400> 244

```

Met Leu Leu Lys Leu Lys Tyr Arg Phe Val Gly Phe Leu Leu Leu Phe
  1             5             10             15

```

```

Leu Ile Phe Ile Leu Leu Leu Phe Ser Thr Ile Phe Asn Phe Val Leu
      20             25             30

```

```

Cys Gly Tyr Leu Glu Asp Tyr Tyr Lys Gln Leu Thr Arg Ala Gln Val
      35             40             45

```

```

Arg Arg Ala Ala Phe Ser Leu Gln Ser Phe Leu Asp Thr Leu His Val
      50             55             60

```

```

Ile Ile Asn Gly Ala Ala Ser Asn Leu Ala Leu Glu Thr Ile Ser Glu
      65             70             75             80

```

```

Phe Ala Met Ser Glu Asn Arg Gly Lys Asp Phe Ser Glu Ser Glu Leu
      85             90             95

```

```

Ile Asp Leu Arg Lys Asn Pro Lys Phe Val Ile Asp Ser Val Lys Val
      100            105            110

```

```

Ser Lys Lys Tyr Arg Gln Tyr Leu Tyr Asn Phe Met Ala Asn Leu Lys
      115            120            125

```

```

Asn Asp Thr Leu Phe Glu Glu Phe Ala Phe Phe Asp Phe Glu Gly Arg
      130            135            140

```

```

Val Ile Val Ser Thr Arg His Glu Asn Asn Met Asp Phe Gly His Ser
      145            150            155            160

```

```

Glu Ala Asn Thr Asn Tyr Phe Lys Lys Ala Val Glu Asp Tyr Arg Gln
      165            170            175

```

```

Asn Gln Leu Lys Phe Ile Gly Trp Tyr Ser Asn Leu Ser Glu Gly Ile
      180            185            190

```

```

Ser Ala Glu Val Ala Ile Arg Ser Lys Gln Ser Glu Lys Lys Ala Phe
      195            200            205

```

Ala Ile Ile Val Pro Val Tyr Ser Pro Glu Asp Lys Leu Val Cys Gly  
 210 215 220  
 Tyr Leu Ala Gly Tyr Leu Leu Asn Asp Ile Val Ala Asp Ser Phe Asp  
 225 230 235 240  
 Arg Phe Arg Phe Gly Phe Tyr Lys Arg Gly Asn Phe Ile Tyr Val Asp  
 245 250 255  
 Pro Asn Asn Ile Ala Val Asn Pro Phe Glu Glu Tyr Asn Glu Thr Ser  
 260 265 270  
 Arg Val Ser Ser Lys Phe Leu Asn Val Leu Lys Asp Val Phe Ser Lys  
 275 280 285  
 Pro Pro Phe Pro Ser Asn Ile Ala Ser Glu Val Ser Val Tyr Thr Ile  
 290 295 300  
 Asp Arg Ile Leu Leu Ser Glu Met Gly Glu Asp Cys Tyr Tyr Ala Met  
 305 310 315 320  
 Leu Pro Ile Ser Ser Lys Leu Gly Glu Lys Ser Gly Val Leu Ile Ala  
 325 330 335  
 Arg Leu Pro Tyr Lys Asp Ile Tyr Gly Val Ile Ser Ser Leu Arg Phe  
 340 345 350  
 Gln Tyr Ile Leu Tyr Ser Val Leu Gly Ile Ile Ala Leu Ser Ile Val  
 355 360 365  
 Leu Ser Ile Arg Ile Asp Arg Ile Ile Ser Phe Arg Leu Asn Ala Ile  
 370 375 380  
 Arg Val Leu Val Gln Asp Met Val Lys Gly Asn Leu Asp Lys Asp Tyr  
 385 390 395 400  
 Ala Leu Asp Asp Asp Glu Asn Thr Leu Asp Glu Leu Gly Met Leu Ser  
 405 410 415  
 Leu Gln Val Val Lys Met Lys Lys Ala Ile Ser Val Ala Ile Ser Ser  
 420 425 430  
 Val Leu Arg Asn Ile Ser Tyr Val Asn Lys Ala Ser Leu Glu Val Ala  
 435 440 445  
 Ser Ser Ser Gln Asn Leu Ser Ser Ser Ala Leu Gln Gln Ala Ser Ala  
 450 455 460  
 Leu Glu Glu Met Ser Ala Asn Val Glu Gln Ile Ala Ser Gly Val Asn  
 465 470 475 480  
 Met Ser Ala Asn Asn Ser Tyr Glu Thr Glu Gln Ile Ala Leu Lys Thr  
 485 490 495  
 Asn Glu Asn Ser Gln Ile Gly Gly Arg Ala Val Glu Glu Ser Val Ile  
 500 505 510  
 Ala Met Gln Asp Ile Val Glu Lys Val Ser Val Ile Glu Glu Ile Ala

515                      520                      525  
 Arg Lys Thr Asn Leu Leu Ala Leu Asn Ala Ala Ile Glu Ala Ala Arg  
     530                      535                      540  
 Ala Gly Asp Glu Gly Lys Gly Phe Ala Val Val Ala Ser Glu Ile Arg  
     545                      550                      555                      560  
 Lys Leu Ala Asp Leu Ser Lys Ile Ser Ala Leu Glu Ile Gly Glu Leu  
                     565                      570                      575  
 Val Glu Asp Asn Ser Lys Val Ala Thr Glu Ala Gly Val Ile Phe Lys  
                     580                      585                      590  
 Glu Met Leu Pro Glu Ile Glu Glu Thr Ala Asn Leu Val Lys Lys Ile  
                     595                      600                      605  
 Ser Glu Gly Ser Ser Lys Gln Ser Asp Gln Ile Ala Gln Phe Lys Met  
                     610                      615                      620  
 Ala Leu Asp Gln Val Gly Glu Val Val Gln Ser Ser Ala Ser Ser Ser  
     625                      630                      635                      640  
 Glu Gln Leu Ser Ser Met Ser Asp Lys Met Leu Glu Lys Ser Lys Glu  
                     645                      650                      655  
 Leu Arg Lys Ser Val Leu Phe Phe Lys Ile Lys Asp Ser Lys Ile Glu  
                     660                      665                      670  
 Asn Pro Glu Asn Asp Asp Tyr Asp Phe Arg Leu Ile Asp Cys Pro Glu  
                     675                      680                      685  
 Asn Ser Phe Lys Asp Glu Asn Gln Asn Leu Lys Ser Asn Gly Ile Ser  
                     690                      695                      700  
 Thr Ser Asn Ala Ser Gly His Asn Asn Tyr Ser Leu Asp Ile Glu Ser  
     705                      710                      715                      720  
 Glu Ser Ser Val Arg Thr Ile Asn Lys Arg Val Asp Pro Lys Lys Ala  
                     725                      730                      735  
 Ile Asp Ile Ala Asp Lys Asp Leu Asn Phe Asp Asp Asp Phe Ser Glu  
                     740                      745                      750

Phe

&lt;210&gt; 245

&lt;211&gt; 723

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 245

Val Leu Cys Gly Tyr Leu Glu Asp Tyr Tyr Lys Gln Leu Thr Arg Ala  
     1                      5                      10                      15

Gln Val Arg Arg Ala Ala Phe Ser Leu Gln Ser Phe Leu Asp Thr Leu  
                     20                      25                      30

His Val Ile Ile Asn Gly Ala Ala Ser Asn Leu Ala Leu Glu Thr Ile  
 35 40 45  
 Ser Glu Phe Ala Met Ser Glu Asn Arg Gly Lys Asp Phe Ser Glu Ser  
 50 55 60  
 Glu Leu Ile Asp Leu Arg Lys Asn Pro Lys Phe Val Ile Asp Ser Val  
 65 70 75 80  
 Lys Val Ser Lys Lys Tyr Arg Gln Tyr Leu Tyr Asn Phe Met Ala Asn  
 85 90 95  
 Leu Lys Asn Asp Thr Leu Phe Glu Glu Phe Ala Phe Phe Asp Phe Glu  
 100 105 110  
 Gly Arg Val Ile Val Ser Thr Arg His Glu Asn Asn Met Asp Phe Gly  
 115 120 125  
 His Ser Glu Ala Asn Thr Asn Tyr Phe Lys Lys Ala Val Glu Asp Tyr  
 130 135 140  
 Arg Gln Asn Gln Leu Lys Phe Ile Gly Trp Tyr Ser Asn Leu Ser Glu  
 145 150 155 160  
 Gly Ile Ser Ala Glu Val Ala Ile Arg Ser Lys Gln Ser Glu Lys Lys  
 165 170 175  
 Ala Phe Ala Ile Ile Val Pro Val Tyr Ser Pro Glu Asp Lys Leu Val  
 180 185 190  
 Cys Gly Tyr Leu Ala Gly Tyr Leu Leu Asn Asp Ile Val Ala Asp Ser  
 195 200 205  
 Phe Asp Arg Phe Arg Phe Gly Phe Tyr Lys Arg Gly Asn Phe Ile Tyr  
 210 215 220  
 Val Asp Pro Asn Asn Ile Ala Val Asn Pro Phe Glu Glu Tyr Asn Glu  
 225 230 235 240  
 Thr Ser Arg Val Ser Ser Lys Phe Leu Asn Val Leu Lys Asp Val Phe  
 245 250 255  
 Ser Lys Pro Pro Phe Pro Ser Asn Ile Ala Ser Glu Val Ser Val Tyr  
 260 265 270  
 Thr Ile Asp Arg Ile Leu Leu Ser Glu Met Gly Glu Asp Cys Tyr Tyr  
 275 280 285  
 Ala Met Leu Pro Ile Ser Ser Lys Leu Gly Glu Lys Ser Gly Val Leu  
 290 295 300  
 Ile Ala Arg Leu Pro Tyr Lys Asp Ile Tyr Gly Val Ile Ser Ser Leu  
 305 310 315 320  
 Arg Phe Gln Tyr Ile Leu Tyr Ser Val Leu Gly Ile Ile Ala Leu Ser  
 325 330 335



Ile Val Leu Ser Ile Arg Ile Asp Arg Ile Ile Ser Phe Arg Leu Asn  
 340 345 350  
 Ala Ile Arg Val Leu Val Gln Asp Met Val Lys Gly Asn Leu Asp Lys  
 355 360 365  
 Asp Tyr Ala Leu Asp Asp Asp Glu Asn Thr Leu Asp Glu Leu Gly Met  
 370 375 380  
 Leu Ser Leu Gln Val Val Lys Met Lys Lys Ala Ile Ser Val Ala Ile  
 385 390 395 400  
 Ser Ser Val Leu Arg Asn Ile Ser Tyr Val Asn Lys Ala Ser Leu Glu  
 405 410 415  
 Val Ala Ser Ser Ser Gln Asn Leu Ser Ser Ser Ala Leu Gln Gln Ala  
 420 425 430  
 Ser Ala Leu Glu Glu Met Ser Ala Asn Val Glu Gln Ile Ala Ser Gly  
 435 440 445  
 Val Asn Met Ser Ala Asn Asn Ser Tyr Glu Thr Glu Gln Ile Ala Leu  
 450 455 460  
 Lys Thr Asn Glu Asn Ser Gln Ile Gly Gly Arg Ala Val Glu Glu Ser  
 465 470 475 480  
 Val Ile Ala Met Gln Asp Ile Val Glu Lys Val Ser Val Ile Glu Glu  
 485 490 495  
 Ile Ala Arg Lys Thr Asn Leu Leu Ala Leu Asn Ala Ala Ile Glu Ala  
 500 505 510  
 Ala Arg Ala Gly Asp Glu Gly Lys Gly Phe Ala Val Val Ala Ser Glu  
 515 520 525  
 Ile Arg Lys Leu Ala Asp Leu Ser Lys Ile Ser Ala Leu Glu Ile Gly  
 530 535 540  
 Glu Leu Val Glu Asp Asn Ser Lys Val Ala Thr Glu Ala Gly Val Ile  
 545 550 555 560  
 Phe Lys Glu Met Leu Pro Glu Ile Glu Glu Thr Ala Asn Leu Val Lys  
 565 570 575  
 Lys Ile Ser Glu Gly Ser Ser Lys Gln Ser Asp Gln Ile Ala Gln Phe  
 580 585 590  
 Lys Met Ala Leu Asp Gln Val Gly Glu Val Val Gln Ser Ser Ala Ser  
 595 600 605  
 Ser Ser Glu Gln Leu Ser Ser Met Ser Asp Lys Met Leu Glu Lys Ser  
 610 615 620  
 Lys Glu Leu Arg Lys Ser Val Leu Phe Phe Lys Ile Lys Asp Ser Lys  
 625 630 635 640  
 Ile Glu Asn Pro Glu Asn Asp Asp Tyr Asp Phe Arg Leu Ile Asp Cys

645								650				655				
Pro	Glu	Asn	Ser	Phe	Lys	Asp	Glu	Asn	Gln	Asn	Leu	Lys	Ser	Asn	Gly	
			660					665					670			
Ile	Ser	Thr	Ser	Asn	Ala	Ser	Gly	His	Asn	Asn	Tyr	Ser	Leu	Asp	Ile	
		675					680					685				
Glu	Ser	Glu	Ser	Ser	Val	Arg	Thr	Ile	Asn	Lys	Arg	Val	Asp	Pro	Lys	
		690				695					700					
Lys	Ala	Ile	Asp	Ile	Ala	Asp	Lys	Asp	Leu	Asn	Phe	Asp	Asp	Asp	Phe	
705					710					715					720	
Ser	Glu	Phe														

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<210> 246
<211> 2262
<212> DNA
<213> Homo sapiens
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aagcagctta	caagggcgca	agtaagaaga	gcagcttttt	ctttgcaatc	tttttttagac	180	
accctgcatg	tcataattcaa	tggtgacgt	tctaatttttg	cacttgaaac	catatcagaa	240	
tttgcatagt	ctgagaatag	aggaaaagat	ttctctgagt	cggaaattgat	agatttaaga	300	
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ttgccataaa	gtagtaaaatt	gggagaaaaag	agtggagtac	ttattgtctg	gttcccttat	1020	
aaggatattt	acggagtaat	atctagtcta	agatttcagt	atattttata	ttcagttcta	1080	
ggcattatag	cattaagtat	tgttctttca	attagaatag	acaggattat	tagttttcgt	1140	
ttaaacgcaa	ttagagttct	agttcaagat	atgggttaagg	gcaattttaga	taaagattat	1200	
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aaataaggcaa	gtttagaagt	tgccagttca	agtcaaaatt	taagctctag	tgcattgcaa	1380	
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gagcagcttt	ctagtatgtc	cgataaaaatg	ttagaaaagt	ctaaggaact	tagaaaaattc	1980	
gtattattttt	tcaaaatttaa	agattctaaa	attgaaaatc	cagaaaaatga	tgattatgat	2040	
ttcagggttaa	tagattgtcc	tgaaaaattct	tttaaagatg	aaaaatcaaaa	tttgaaaaaqc	2100	

```

aatggaatctt ctacttcaaa tgccagtggg cataataatt attctttaga tattgagagc 2160
gaatcttctg taagaactat taataagcga gttgatccta aaaaagctat cgatattgct 2220
gataaggatt taaatcttga tgatgatttt tcagagtttt ag 2262

```

&lt;210&gt; 247

&lt;211&gt; 2172

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 247

```

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tctaatttgg cacttgaaac catatcagaa tttgcaatgt ctgagaatag agggaaaagat 180
ttctctgagt cggaattgat agattttaaga aaaaatccaa aatttggtat tgactctgta 240
aaggtgagca aaaaatatcg acaatactta tacaatttta tggccaatct taaaaatgat 300
accctttttg aagaattcgc tttttttgat tttgaagga gagtaattgt tagcacaaga 360
catgagaata atatggattt tggtcattct gaggctaata ccaattatct taaaaaagct 420
gttgaggatt ataggcaaaa ccaattaaaa tttatagggt ggtattcaaa tctttctgaa 480
ggaatatccg cagaagtgtc tattaggtct aaacaaagcg aaaaaaaggc ttttgcaata 540
attgtacctg tatattcccc agaagataaa cttgtttgtg ggtatttggc cggatatttg 600
cttaatgata ttgtggcaga tagttttgat agatttagat tgggttttta taaaagaggc 660
aattttatct atgtggatcc caacaatata gcagttaatc cttttgaaga atataatgaa 720
accagcaggg ttagttctaa atttttgaat gttcttaaag atgttttctc taagccccct 780
tttccatcaa acattgccag tgaagtgtcg gtttactacta ttgatagaat acttttctcc 840
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agtggagtac ttattgctag gcttccttat aaggatattt acggagtaat atctagtcta 960
agatttcagt atattttata ttcagtcctta ggcattatag cattaagtat tgttctttca 1020
attagaatag acaggattat tagttttcgt ttaaacgcaa tttagagttct agttcaagat 1080
atgggttaagg gcaattttaga taaagattat gctcttgatg atgatgaaaa tactcttgat 1140
gaacttggca tgtaagtctc tcagggttggt aaaatgaaaa aagctatttc ttagcaatt 1200
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agtcaaaatt taagctctag tgcattgcaa caggcatctg ctcttgaga aatgtcagct 1320
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caaatagctt taaagacgaa tgaaaattct cagatagggt gtagggccgt tgaagaatct 1440
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accaatttac ttgctttgaa tgcggctatt gaagctgcaa gagcaggaga tgagggaaaag 1560
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cttgagattg gagagttagt tgaagataac tctaaggtag caactgaagc gggagtgatc 1680
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cataataatt attctttaga tattgagagc gaatcttctg taagaactat taataagcga 2100
gttgatccta aaaaagctat cgatattgct gataaggatt taaatcttga tgatgatttt 2160
tcagagtttt ag 2172

```

&lt;210&gt; 248

&lt;211&gt; 383

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 248

```

Met Thr Ile Ser Lys Asn Val Phe Ser Lys Phe Ile Leu Lys Phe Leu
  1                      5                      10                     15

```

```

Asn Ser Ser Ala Phe Val Ser Val Phe Ala Leu Phe Val Gly Phe Leu

```

20					25					30					
Ile	Val	Gly	Leu	Val	Val	Met	Gly	Leu	Gly	His	Ser	Pro	Phe	Arg	Met
		35					40					45			
Tyr	Phe	Ile	Ile	Leu	Glu	Ile	Ile	Phe	Ser	Ser	Pro	Lys	His	Leu	Gly
	50					55					60				
Tyr	Val	Leu	Ser	Tyr	Ser	Ala	Pro	Leu	Ile	Phe	Thr	Gly	Leu	Ser	Ile
	65				70					75					80
Gly	Ile	Ser	Leu	Lys	Ala	Gly	Leu	Phe	Asn	Ile	Gly	Val	Glu	Gly	Gln
				85					90					95	
Phe	Ile	Leu	Gly	Ser	Ile	Val	Ala	Leu	Ile	Ala	Ser	Val	Leu	Leu	Asp
			100					105					110		
Leu	Pro	Pro	Ile	Leu	His	Val	Ile	Thr	Ile	Phe	Ile	Ile	Thr	Phe	Leu
		115					120					125			
Ala	Ser	Gly	Ser	Leu	Gly	Ile	Leu	Ile	Gly	Tyr	Leu	Lys	Ala	Lys	Phe
	130					135					140				
Asn	Ile	Ser	Glu	Val	Ile	Ser	Gly	Ile	Met	Phe	Asn	Trp	Ile	Leu	Phe
	145				150					155					160
His	Leu	Asn	Asn	Ile	Ile	Leu	Asp	Phe	Ser	Phe	Ile	Lys	Arg	Asp	Asn
			165						170					175	
Ser	Asp	Phe	Ser	Lys	Pro	Ile	Lys	Glu	Ser	Ala	Tyr	Ile	Asp	Phe	Leu
			180					185					190		
Ala	Ser	Trp	Lys	Leu	Ser	Pro	Glu	Gly	Leu	Ala	Tyr	Arg	Ser	Ser	His
		195					200					205			
Pro	Phe	Val	Asn	Glu	Leu	Leu	Lys	Ala	Pro	Leu	His	Phe	Gly	Ile	Ile
	210					215					220				
Leu	Gly	Ile	Ile	Phe	Ala	Ile	Leu	Ile	Trp	Phe	Leu	Leu	Asn	Lys	Thr
	225				230					235					240
Ile	Ile	Gly	Phe	Lys	Ile	Asn	Ala	Thr	Gly	Ser	Asn	Ile	Glu	Ala	Ser
				245					250					255	
Arg	Cys	Met	Gly	Ile	Asn	Val	Lys	Ala	Val	Leu	Ile	Phe	Ser	Met	Phe
			260					265					270		
Leu	Ser	Ala	Ala	Val	Ala	Gly	Leu	Ala	Gly	Ala	Ile	Gln	Leu	Met	Gly
		275					280					285			
Val	Asn	Lys	Ala	Ile	Phe	Lys	Leu	Ser	Tyr	Met	Gln	Gly	Ile	Gly	Phe
	290					295					300				
Asn	Gly	Ile	Ala	Ala	Ser	Leu	Met	Gly	Asn	Asn	Ser	Pro	Ile	Gly	Ile
	305				310					315					320
Ile	Phe	Ser	Ser	Ile	Leu	Phe	Ser	Ile	Leu	Leu	Tyr	Gly	Ser	Ser	Arg
				325					330					335	

Val Gln Ser Leu Met Gly Leu Pro Ser Ser Ile Val Ser Leu Met Met  
 340 345 350

Gly Ile Ile Val Leu Val Ile Ser Ala Ser Tyr Phe Leu Asn Lys Ile  
 355 360 365

Val Leu Lys Gly Val Lys Arg Val Lys Tyr Asn Asn Ile Leu Asp  
 370 375 380

<210> 249

<211> 348

<212> PRT

<213> Homo sapiens

<400> 249

Leu Val Val Met Gly Leu Gly His Ser Pro Phe Arg Met Tyr Phe Ile  
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Ile Leu Glu Ile Ile Phe Ser Ser Pro Lys His Leu Gly Tyr Val Leu  
 20 25 30

Ser Tyr Ser Ala Pro Leu Ile Phe Thr Gly Leu Ser Ile Gly Ile Ser  
 35 40 45

Leu Lys Ala Gly Leu Phe Asn Ile Gly Val Glu Gly Gln Phe Ile Leu  
 50 55 60

Gly Ser Ile Val Ala Leu Ile Ala Ser Val Leu Leu Asp Leu Pro Pro  
 65 70 75 80

Ile Leu His Val Ile Thr Ile Phe Ile Ile Thr Phe Leu Ala Ser Gly  
 85 90 95

Ser Leu Gly Ile Leu Ile Gly Tyr Leu Lys Ala Lys Phe Asn Ile Ser  
 100 105 110

Glu Val Ile Ser Gly Ile Met Phe Asn Trp Ile Leu Phe His Leu Asn  
 115 120 125

Asn Ile Ile Leu Asp Phe Ser Phe Ile Lys Arg Asp Asn Ser Asp Phe  
 130 135 140

Ser Lys Pro Ile Lys Glu Ser Ala Tyr Ile Asp Phe Leu Ala Ser Trp  
 145 150 155 160

Lys Leu Ser Pro Glu Gly Leu Ala Tyr Arg Ser Ser His Pro Phe Val  
 165 170 175

Asn Glu Leu Leu Lys Ala Pro Leu His Phe Gly Ile Ile Leu Gly Ile  
 180 185 190

Ile Phe Ala Ile Leu Ile Trp Phe Leu Leu Asn Lys Thr Ile Ile Gly  
 195 200 205

Phe Lys Ile Asn Ala Thr Gly Ser Asn Ile Glu Ala Ser Arg Cys Met  
 210 215 220

Gly Ile Asn Val Lys Ala Val Leu Ile Phe Ser Met Phe Leu Ser Ala  
225 230 235 240

Ala Val Ala Gly Leu Ala Gly Ala Ile Gln Leu Met Gly Val Asn Lys  
245 250 255

Ala Ile Phe Lys Leu Ser Tyr Met Gln Gly Ile Gly Phe Asn Gly Ile  
260 265 270

Ala Ala Ser Leu Met Gly Asn Asn Ser Pro Ile Gly Ile Ile Phe Ser  
275 280 285

Ser Ile Leu Phe Ser Ile Leu Leu Tyr Gly Ser Ser Arg Val Gln Ser  
290 295 300

Leu Met Gly Leu Pro Ser Ser Ile Val Ser Leu Met Met Gly Ile Ile  
305 310 315 320

Val Leu Val Ile Ser Ala Ser Tyr Phe Leu Asn Lys Ile Val Leu Lys  
325 330 335

Gly Val Lys Arg Val Lys Tyr Asn Asn Ile Leu Asp  
340 345

<210> 250

<211> 1152

<212> DNA

<213> Homo sapiens

<400> 250

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cttggtcatt ctcttttag aatgtatttt ataatttag aaattatttt ttcttctccc 180
aaacatttag gttatgtttt agttatttca gctcctttga tttttacagg tctttctatt 240
ggattttctt taaaagcggg tctttttaat attggggttg aaggccaggt tatactagga 300
tctattgttg cttaatagc atcagtttta cttgatttgc ctccaatttt acatgtaatt 360
actattttta ttattacttt tttagcttca ggcagtttag gaattttaat cggatattta 420
aaagccaaat tcaatattag cgaagtgatt tcaggaataa tgtttaattg gatattattt 480
catttaata atataatttt agatttttagt tttattaaaa gagataatag tgatttttca 540
aaaccatta aagaaagcgc atatatgtat tttttagctt cttggaagct ctcaccagaa 600
ggctcttgct atagatcttc tcatcctttt gttaatgagc ttttaaaagc acctcttcat 660
tttggaataa ttttaggtat aatttttgct attttaatat ggtttttact taataaaact 720
attattggat ttaaaataaa tgccacagga agtaatttg aagcttcaag atgtatgggt 780
attaatgtaa aagctgtgct aattttttca atgtttctct cagcagctgt tgcaggctct 840
gctgggtgcta ttcaacttat gggtgttaat aaagctatat ttaagctttc ttatatgcaa 900
ggaattgggt ttaatgggat agctgcttct cttatgggaa acaattcgcc aattggcata 960
atattttcta gcattctttt ttctatatgt ctttatggaa gcagtagagt tcaaagttta 1020
atgggccttc catcttcaat tgtatctttg atgatgggaa taattgttct tgtaatttct 1080
gctagctatt ttttaataaa aattgtttta aaagtggtta agcgtgtcaa atataataat 1140
attcttgatt ag 1152
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<210> 251

<211> 1050

<212> DNA

<213> Homo sapiens

<400> 251

gggctagtgg tgatggggct tgggtcattct ccttttagaa tgtattttat aatattagaa 60

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tttacaggtc tttctattgg tatttcttta aaagcgggtc tttttaatat tgggggttgaa 180
ggccagttta tactaggatc tattgttgct ttaatagcat cagttttact tgatttgcct 240
ccaattttac atgtaattac tatttttatt attacttttt tagcttcagg cagtttagga 300
attttaatcg gatatttaaa agccaaattc aatattagcg aagtgatttc aggaataatg 360
tttaattgga tattatttca tttaaataat ataatttttag atttttagttt tattaaaaga 420
gataatagtg atttttcaaaa acccattaaa gaaagcgcat atattgattt tttagcttct 480
tggaagctct caccagaagg tcttgcttat agatcttctc atccttttgt taatgagctt 540
ttaaagcac ctcttcattt tggaataatt ttaggtataa tttttgctat tttaatatgg 600
tttttactta ataaaactat tattggattt aaaataaatg ccacaggaag taatattgaa 660
gcttcaagat gtatgggtat taatgtaaaa gctgtgctaa ttttttcaat gtttctctca 720
gcagctgttg caggtcttgc tgggtctatt caacttatgg gtgttaataa agctatattt 780
aagctttctt atatgcaagg aattggtttt aatgggatag ctgcttctct tatgggaaac 840
aattcgccaa ttggcataat attttctagc attctttttt ctatattgct ttatggaagc 900
agtagagttc aaagtttaat gggccttcca tcttcaattg tatctttgat gatgggaata 960
attgttcttg taatttctgc tagctatttt ttaaataaaa ttgttttaaa aggtgttaag 1020
cgtgtcaaat ataataatat tcttgattag 1050

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<210> 252

<211> 348

<212> PRT

<213> Homo sapiens

<400> 252

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Met Val Lys Lys Phe Ser Ile Phe Leu Lys Ala Ile Ile Ile Phe Ser
  1             5             10             15

Ile Phe Glu Leu Leu Ile Glu Glu Leu Ser Ile Ile Leu Phe Leu Pro
      20             25             30

Tyr Lys Ile Arg Phe Ala Leu Ile Phe Leu Gly Phe Leu Phe Asp Thr
      35             40             45

Ile Phe Ile Phe Ile Phe Leu Tyr Lys Ile Thr Lys Ala Tyr Leu Ser
      50             55             60

Gln Arg Leu Glu Ile Tyr Val Arg Asn Asn Leu Phe Phe Asp Ile Ile
      65             70             75             80

His Cys Leu Ile Pro Leu Ala Phe Tyr Ser Ser Tyr Gln Leu Lys Asn
      85             90             95

Ile Ile Val Ala His Glu Thr Ile Leu Asn Pro Ile Met Leu Ser Leu
      100            105            110

Phe Lys Leu Arg Phe Leu Arg Leu Leu Arg Phe Asn Asp Leu Ile Ile
      115            120            125

Glu Ile Tyr Tyr Asn Ser Lys Glu Lys Asn Leu Ile Leu Ile Ala Phe
      130            135            140

Ala Arg Thr Phe Ser Met Ser Leu Leu Ile Pro Phe Thr Phe Phe Ile
      145            150            155            160

Ile Ile Ser Ser Ser Lys Ile Val Asn Ser Ile Pro Glu Lys Gln Glu
      165            170            175

Phe Asn Ile Ile Lys Asn Ile Ser Ile Ile Asn Glu Lys Ala Tyr Ile

```

180										185										190									
Lys	Glu	Lys	Tyr	Pro	Phe	Ile	Leu	Ile	Ile	Lys	Glu	Lys	Asp	Asp	Ile														
		195					200						205																
Ile	Tyr	Ser	Lys	Ser	Asp	Glu	Ile	Phe	Val	Tyr	Tyr	Ser	Pro	Ser	Glu														
	210					215					220																		
Tyr	Arg	Val	Ile	Glu	Met	Glu	Lys	Thr	Lys	Phe	Tyr	Ile	Asp	Lys	Tyr														
	225				230					235					240														
Leu	Gln	Arg	Lys	Ser	Asp	Ser	Ile	Leu	Gly	Ile	Phe	Leu	Phe	Thr	Leu														
			245					250						255															
Phe	Ala	Ser	Phe	Thr	Ile	Phe	Leu	Met	Asn	Phe	Tyr	Lys	Phe	Phe	Lys														
		260						265					270																
Ala	Ser	Phe	Leu	Asn	Pro	Ile	Ile	Leu	Met	Thr	Lys	Ile	Leu	Gln	Asp														
	275						280					285																	
Pro	Leu	Glu	Tyr	Arg	Lys	Ile	Gln	Ile	Pro	Phe	Thr	Leu	Ser	Glu	Glu														
	290					295					300																		
Lys	Val	Tyr	Glu	Leu	Ala	Lys	Ser	Phe	Asn	Asn	Leu	Leu	Leu	Lys	Glu														
	305				310					315					320														
Lys	Leu	Asn	Ser	Lys	Arg	Lys	Ser	Lys	Ile	Pro	Leu	Glu	Ile	Glu	Lys														
			325						330					335															
Val	Lys	Lys	Ile	Ile	Asn	Lys	Asn	Gln	Glu	Ile	Lys																		
			340					345																					
<210> 253																													
<211> 337																													
<212> PRT																													
<213> Homo sapiens																													
<400> 253																													
Ile	Ile	Ile	Phe	Ser	Ile	Phe	Glu	Leu	Leu	Ile	Glu	Glu	Leu	Ser	Ile														
1				5					10					15															
Ile	Leu	Phe	Leu	Pro	Tyr	Lys	Ile	Arg	Phe	Ala	Leu	Ile	Phe	Leu	Gly														
			20					25					30																
Phe	Leu	Phe	Asp	Thr	Ile	Phe	Ile	Phe	Ile	Phe	Leu	Tyr	Lys	Ile	Thr														
		35				40						45																	
Lys	Ala	Tyr	Leu	Ser	Gln	Arg	Leu	Glu	Ile	Tyr	Val	Arg	Asn	Asn	Leu														
	50					55					60																		
Phe	Phe	Asp	Ile	Ile	His	Cys	Leu	Ile	Pro	Leu	Ala	Phe	Tyr	Ser	Ser														
	65				70					75					80														
Tyr	Gln	Leu	Lys	Asn	Ile	Ile	Val	Ala	His	Glu	Thr	Ile	Leu	Asn	Pro														
				85					90					95															
Ile	Met	Leu	Ser	Leu	Phe	Lys	Leu	Arg	Phe	Leu	Arg	Leu	Leu	Arg	Phe														
			100					105						110															



Asn Asp Leu Ile Ile Glu Ile Tyr Tyr Asn Ser Lys Glu Lys Asn Leu  
 115 120 125  
 Ile Leu Ile Ala Phe Ala Arg Thr Phe Ser Met Ser Leu Leu Ile Pro  
 130 135 140  
 Phe Thr Phe Phe Ile Ile Ile Ser Ser Ser Lys Ile Val Asn Ser Ile  
 145 150 155 160  
 Pro Glu Lys Gln Glu Phe Asn Ile Ile Lys Asn Ile Ser Ile Ile Asn  
 165 170 175  
 Glu Lys Ala Tyr Ile Lys Glu Lys Tyr Pro Phe Ile Leu Ile Ile Lys  
 180 185 190  
 Glu Lys Asp Asp Ile Ile Tyr Ser Lys Ser Asp Glu Ile Phe Val Tyr  
 195 200 205  
 Tyr Ser Pro Ser Glu Tyr Arg Val Ile Glu Met Glu Lys Thr Lys Phe  
 210 215 220  
 Tyr Ile Asp Lys Tyr Leu Gln Arg Lys Ser Asp Ser Ile Leu Gly Ile  
 225 230 235 240  
 Phe Leu Phe Thr Leu Phe Ala Ser Phe Thr Ile Phe Leu Met Asn Phe  
 245 250 255  
 Tyr Lys Phe Phe Lys Ala Ser Phe Leu Asn Pro Ile Ile Leu Met Thr  
 260 265 270  
 Lys Ile Leu Gln Asp Pro Leu Glu Tyr Arg Lys Ile Gln Ile Pro Phe  
 275 280 285  
 Thr Leu Ser Glu Glu Lys Val Tyr Glu Leu Ala Lys Ser Phe Asn Asn  
 290 295 300  
 Leu Leu Leu Lys Glu Lys Leu Asn Ser Lys Arg Lys Ser Lys Ile Pro  
 305 310 315 320  
 Leu Glu Ile Glu Lys Val Lys Lys Ile Ile Asn Lys Asn Gln Glu Ile  
 325 330 335

Lys

<210> 254

<211> 1047

<212> DNA

<213> Homo sapiens

<400> 254

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 tttcttgggt ttctatttga cacaattttt attttcattt ttttatacaa aataaccaag 180  
 gcctaccttt cccaaagatt agaaatctac gtcagaaaca atctattctt cgatataatc 240  
 cactgcctta ttccttttagc gttttatagc tcatatcagc ttaaaaacat aattgtcgcc 300  
 catgaaacaa tattaatatcc aataatgcta tcacttttca agttaagatt ttttaagactt 360

```

cttaggttta atgacctaata aatagaaata tattacaatt caaaagaaaa gaacctaata 420
ctaatagcata ttgctaggac attttcaatg agcttattaa taccatttac attttttata 480
ataatatcaa gctcaaaaaat tgtaaaattca ataccagaaa aacaagaatt taatatcatt 540
aaaaatatat caataataaaa tgaaaaagct tacattaaag aaaaatatcc cttcatctta 600
ataatcaagg aaaaagatga cataatatac tcaaaatcag acgaaatatt tgtttactac 660
agtcacagtg aatatagagt aatagaaatg gagaaaaaca aatttttatat agataaatat 720
ttgcaaagaa aaagcgattc tattcttgga atttttctat ttacattgtt tgcattcatt 780
actatttttt taatgaattt ttataaaattt tttaaagcaa gcttttttaa tcctattatt 840
ttaatgacaa aaatttttaca agaccatta gaatatcgaa aaattcaaat tccttttact 900
ttaagcgaag aaaaagtata tgaaacttga aaatcattta acaatctctt gctaaaagaa 960
aaactaaact caaagcgaag aagcaaaata ccttttagaaa ttgaaaaagt aaaaaaata 1020
attaataaaa accaggaaat aaaatga
1047

```

&lt;210&gt; 255

&lt;211&gt; 1014

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 255

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ataataatatt tttcaatatt tgaactttta atcgaagaac tctcaataat tcttttttta 60
ccatacaaaa tacgatttgc actaatatatt cttgggtttc tatttgacac aatttttatt 120
ttcatttttt tatacaaaaa aaccaaggcc tacctttccc aaagattaga aatctacgtc 180
agaaacaatc tattcttcga tataatccac tgccttattc ctttagcgtt ttatagctca 240
tattcagctta aaacataat tgcgcgccat gaaacaatat taaatccaat aatgctatca 300
cttttcaagt taagattttt aagacttctt aggttttaatg acctaatat agaaatatat 360
tacaattcaa aagaaaagaa cctaatacta atagcatttg ctaggacatt ttcaatgagc 420
ttattaatac catttacatt ttttataata atatcaagct caaaaattgt aaattcaata 480
ccagaaaaac aagaatttaa tatcattaaa aatatatcaa taataaatga aaaagcttac 540
attaagaaaa aatatccctt catcttaata atcaaggaaa aagatgacat aatatactca 600
aaatcagacg aaatatttgt ttactacagt ccagtggaat atagagtaat agaaatggag 660
aaaacaaaaa tttatataga taaatatttg caaagaaaaa gcgattctat tcttggaatt 720
tttctattta cattgtttgc atcatttact atttttttta tgaattttta taaatttttt 780
aaagcaagct ttttaaatcc tattatttta atgacaaaaa ttttacaaga ccattagaa 840
tatcgaaaaa ttcaaatcc ttttacttta agcgaagaaa aagtatatga acttgcaaaa 900
tcatttaaca atctcttgct aaaagaaaaa ctaaaactcaa agcgaaaaag caaaatacct 960
ttagaaattg aaaaagtaaa aaaaataatt aataaaaacc aggaaataaa atga 1014

```

&lt;210&gt; 256

&lt;211&gt; 322

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 256

```

Met Lys Ile Gln Ile Ile Ile Met Leu Leu Ala Leu Leu Asp Phe Pro
  1             5             10             15

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Leu Asn Ala Arg Leu Leu Asp Ile Ser Ile Glu Lys Arg Ala Asp Glu
      20             25             30

```

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Glu Ile Lys Lys Tyr Ser Ser Tyr Asn Leu Ile Leu Glu Lys Glu Tyr
      35             40             45

```

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Tyr Thr Asn Phe Pro Thr Ser Glu Ile Glu Lys Asn Ile Tyr Lys Leu
      50             55             60

```

```

Thr Glu His Phe Val Lys Ser Ile Met Leu Asn Lys Thr Asn Tyr Ser
      65             70             75             80

```

Leu Leu Asn Ser Asn Tyr Lys Glu Ala Asn Lys Tyr Leu Ile Gln Ser  
                             85                            90                            95  
 Glu Leu Ile Asp Lys Lys Phe Leu Lys Tyr Lys Ile Phe Lys Ile Lys  
                             100                            105                            110  
 Asn Ile Asn Gly Ile Phe Lys Ser His Ser Leu Ile Tyr Thr Lys Lys  
                             115                            120                            125  
 Gly Phe Tyr Lys Leu Glu Leu Tyr Ile Glu Asn Asn Ala Glu Pro Leu  
                             130                            135                            140  
 Lys Ile Phe Asn Leu Asn Ile Thr Tyr Phe Leu Lys Asn Leu Asp Lys  
                             145                            150                            155                            160  
 Ile Ser Asn Glu Met Ile Phe Phe Pro Arg Glu Lys Arg Glu Val Asn  
                             165                            170                            175  
 Met Ile Gln Lys Thr Thr Ile Ala Ala Asp Ser Ser Ser Lys Pro Arg  
                             180                            185                            190  
 Gly Ile Asn Tyr Asp Thr Gly Ile Pro Phe Asn Val Leu Ile Val Asp  
                             195                            200                            205  
 Asp Ser Val Phe Thr Val Lys Gln Leu Thr Gln Ile Phe Thr Ser Glu  
                             210                            215                            220  
 Gly Phe Asn Ile Ile Asp Thr Ala Ala Asp Gly Glu Glu Ala Val Ile  
                             225                            230                            235                            240  
 Lys Tyr Lys Asn His Tyr Pro Asn Ile Asp Ile Val Thr Leu Asp Ile  
                             245                            250                            255  
 Thr Met Pro Lys Met Asp Gly Ile Thr Cys Leu Ser Asn Ile Met Glu  
                             260                            265                            270  
 Phe Asp Lys Asn Ala Arg Val Ile Met Ile Ser Ala Leu Gly Lys Glu  
                             275                            280                            285  
 Gln Leu Val Lys Asp Cys Leu Ile Lys Gly Ala Lys Thr Phe Ile Val  
                             290                            295                            300  
 Lys Pro Leu Asp Arg Ala Lys Val Leu Gln Arg Val Met Ser Val Phe  
                             305                            310                            315                            320  
 Val Lys

&lt;210&gt; 257

&lt;211&gt; 303

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 257

Arg Leu Leu Asp Ile Ser Ile Glu Lys Arg Ala Asp Glu Glu Ile Lys  
     1                            5                            10                            15

Lys Tyr Ser Ser Tyr Asn Leu Ile Leu Glu Lys Glu Tyr Tyr Thr Asn

20					25					30					
Phe	Pro	Thr	Ser	Glu	Ile	Glu	Lys	Asn	Ile	Tyr	Lys	Leu	Thr	Glu	His
	35						40					45			
Phe	Val	Lys	Ser	Ile	Met	Leu	Asn	Lys	Thr	Asn	Tyr	Ser	Leu	Leu	Asn
	50					55					60				
Ser	Asn	Tyr	Lys	Glu	Ala	Asn	Lys	Tyr	Leu	Ile	Gln	Ser	Glu	Leu	Ile
	65					70					75				80
Asp	Lys	Lys	Phe	Leu	Lys	Tyr	Lys	Ile	Phe	Lys	Ile	Lys	Asn	Ile	Asn
			85						90					95	
Gly	Ile	Phe	Lys	Ser	His	Ser	Leu	Ile	Tyr	Thr	Lys	Lys	Gly	Phe	Tyr
			100					105					110		
Lys	Leu	Glu	Leu	Tyr	Ile	Glu	Asn	Asn	Ala	Glu	Pro	Leu	Lys	Ile	Phe
		115					120					125			
Asn	Leu	Asn	Ile	Thr	Tyr	Phe	Leu	Lys	Asn	Leu	Asp	Lys	Ile	Ser	Asn
	130					135					140				
Glu	Met	Ile	Phe	Phe	Pro	Arg	Glu	Lys	Arg	Glu	Val	Asn	Met	Ile	Gln
	145					150					155				160
Lys	Thr	Thr	Ile	Ala	Ala	Asp	Ser	Ser	Ser	Lys	Pro	Arg	Gly	Ile	Asn
			165						170					175	
Tyr	Asp	Thr	Gly	Ile	Pro	Phe	Asn	Val	Leu	Ile	Val	Asp	Asp	Ser	Val
			180					185					190		
Phe	Thr	Val	Lys	Gln	Leu	Thr	Gln	Ile	Phe	Thr	Ser	Glu	Gly	Phe	Asn
		195					200					205			
Ile	Ile	Asp	Thr	Ala	Ala	Asp	Gly	Glu	Glu	Ala	Val	Ile	Lys	Tyr	Lys
	210					215					220				
Asn	His	Tyr	Pro	Asn	Ile	Asp	Ile	Val	Thr	Leu	Asp	Ile	Thr	Met	Pro
	225					230					235				240
Lys	Met	Asp	Gly	Ile	Thr	Cys	Leu	Ser	Asn	Ile	Met	Glu	Phe	Asp	Lys
			245						250					255	
Asn	Ala	Arg	Val	Ile	Met	Ile	Ser	Ala	Leu	Gly	Lys	Glu	Gln	Leu	Val
			260					265					270		
Lys	Asp	Cys	Leu	Ile	Lys	Gly	Ala	Lys	Thr	Phe	Ile	Val	Lys	Pro	Leu
		275					280					285			
Asp	Arg	Ala	Lys	Val	Leu	Gln	Arg	Val	Met	Ser	Val	Phe	Val	Lys	
		290				295						300			

&lt;210&gt; 258

&lt;211&gt; 516

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 258

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atgaaaattc aaataattat aatgctgctt gcattgtag attttccact taatgccaga 60
cttttggaaca tttcaattga aaaaagagca gatgaagaaa taaaaaata ttcgtcttat 120
aatttaattt tagaaaaaga atactatacc aattttccaa caagcgaaat agaaaaaaat 180
atttataaac taacagaaca ttttgtaaaa agcataatgc tcaataaaaac taactacagc 240
ttattaaatt caaactacaa agaagcaaat aaatatctaa ttcaaagcga actcattgat 300
aaaaaatttt taaaatataa aatattttaa atcaaaaata taaatggaat ttttaaaagc 360
cattcactaa tatatacaaa aaaaggattt tacaaattag aactttacat agaaaataat 420
gcagaacctc taaaaatatt taaccttaac attacttatt ttttaaagaa tttagataaa 480
ataagtaatg aaatgatatt tttcccaagg gaatga 516

```

&lt;210&gt; 259

&lt;211&gt; 459

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 259

```

agacttttgg acatttcaat tgaaaaaaga gcagatgaag aaataaaaaa atattcgtct 60
tataatttaa ttttagaaaa agaatactat accaattttc caacaagcga aatagaaaaa 120
aatattttata aactaacaga acatttttgta aaaagcataa tgctcaataa aactaactac 180
agcttatttaa attcaaacta caaagaagca aataaatatc taattcaaag cgaactcatt 240
gataaaaaat ttttaaaata taaaatattt aaaatcaaaa atataaatgg aatttttaa 300
agccattcac taatatatac aaaaaaagga ttttacaat tagaacttta catagaaaat 360
aatgcagaac ctctaaaaat atttaacctt aacattactt atttttttaa gaatttagat 420
aaaataagta atgaaatgat ttttttccca aggggaatga 459

```

&lt;210&gt; 260

&lt;211&gt; 274

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 260

```

Met Leu Lys Thr Leu Thr Lys Ile Ile Thr Ile Ser Cys Leu Ile Val
  1              5              10              15
Gly Cys Ala Ser Leu Pro Tyr Thr Pro Pro Lys Gln Asn Leu Asn Tyr
              20              25              30
Leu Met Glu Leu Leu Pro Gly Ala Asn Leu Tyr Ala His Val Asn Leu
              35              40              45
Ile Lys Asn Arg Ser Ile Tyr Asn Ser Leu Ser Pro Lys Tyr Lys Ser
              50              55              60
Val Leu Gly Leu Ile Ser Asn Leu Tyr Phe Ser Tyr Lys Lys Glu Asn
              65              70              75              80
Asn Asp Phe Ala Leu Leu Ile Met Gly Asn Phe Pro Lys Asp Ile Phe
              85              90              95
Trp Gly Ile His Lys Asn Arg Asn Thr Glu Ser Ile Gly Asn Ile Phe
              100             105             110
Thr Asn Pro Lys Trp Lys Leu Lys Asn Ser Asn Ile Tyr Ile Ile Pro
              115             120             125
Asn Lys Ala Arg Thr Ser Ile Ala Ile Thr Gln Lys Asp Ile Thr Ala
              130             135             140

```

Lys Asp Asn Asn Met Leu Thr Thr Lys Tyr Ile Gly Glu Ile Glu Lys  
145 150 155 160

Asn Glu Met Phe Phe Trp Ile Gln Asp Pro Thr Leu Leu Leu Pro Asn  
165 170 175

Gln Ile Val Ser Ser Lys Asn Leu Ile Pro Phe Ser Ser Gly Thr Leu  
180 185 190

Ser Ile Asn Ser Leu Asn Gln Glu Glu Tyr Ile Phe Lys Ser Leu Ile  
195 200 205

Lys Thr Asn Asn Pro Pro Ile Leu Lys Ile Leu Ser Lys Lys Leu Ile  
210 215 220

Pro Thr Val Leu Thr Asn Met Thr Asn Leu Thr Ile Ser Ser His Ile  
225 230 235 240

Lys Thr Thr Ile Lys Asp Gln Asn Thr Val Glu Ile Glu Phe Asn Ile  
245 250 255

Gln Lys Ser Ser Val Glu Ser Leu Ile Glu Lys Leu Ala Ser Asn Ile  
260 265 270

Gln Thr

<210> 261

<211> 253

<212> PRT

<213> Homo sapiens

<400> 261

Pro Tyr Thr Pro Pro Lys Gln Asn Leu Asn Tyr Leu Met Glu Leu Leu  
1 5 10 15

Pro Gly Ala Asn Leu Tyr Ala His Val Asn Leu Ile Lys Asn Arg Ser  
20 25 30

Ile Tyr Asn Ser Leu Ser Pro Lys Tyr Lys Ser Val Leu Gly Leu Ile  
35 40 45

Ser Asn Leu Tyr Phe Ser Tyr Lys Lys Glu Asn Asn Asp Phe Ala Leu  
50 55 60

Leu Ile Met Gly Asn Phe Pro Lys Asp Ile Phe Trp Gly Ile His Lys  
65 70 75 80

Asn Arg Asn Thr Glu Ser Ile Gly Asn Ile Phe Thr Asn Pro Lys Trp  
85 90 95

Lys Leu Lys Asn Ser Asn Ile Tyr Ile Ile Pro Asn Lys Ala Arg Thr  
100 105 110

Ser Ile Ala Ile Thr Gln Lys Asp Ile Thr Ala Lys Asp Asn Asn Met  
115 120 125

Leu Thr Thr Lys Tyr Ile Gly Glu Ile Glu Lys Asn Glu Met Phe Phe  
130 135 140

Trp Ile Gln Asp Pro Thr Leu Leu Leu Pro Asn Gln Ile Val Ser Ser  
145 150 155 160

Lys Asn Leu Ile Pro Phe Ser Ser Gly Thr Leu Ser Ile Asn Ser Leu  
165 170 175

Asn Gln Glu Glu Tyr Ile Phe Lys Ser Leu Ile Lys Thr Asn Asn Pro  
180 185 190

Pro Ile Leu Lys Ile Leu Ser Lys Lys Leu Ile Pro Thr Val Leu Thr  
195 200 205

Asn Met Thr Asn Leu Thr Ile Ser Ser His Ile Lys Thr Thr Ile Lys  
210 215 220

Asp Gln Asn Thr Val Glu Ile Glu Phe Asn Ile Gln Lys Ser Ser Val  
225 230 235 240

Glu Ser Leu Ile Glu Lys Leu Ala Ser Asn Ile Gln Thr  
245 250

<210> 262

<211> 825

<212> DNA

<213> Homo sapiens

<400> 262

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aatattatag cccatgtaaa tttaattaaa aacaggtcta ttataactc tttaagccct 180
aaatataaat cagttcttgg gcttataagc aattttatact ttagctataa aaaagaaaat 240
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aaaaatagaa atacagaatc aataggcaat atattttacaa atccaaaatg gaaacttaaa 360
aattcaataa tatacattat tccaaacaaa gctagaacta gcattgcaat aacccaaaaa 420
gatataaccg caaaagacaa taatatgcta acaacaaaat atattgggga aatagaaaaa 480
aatgaaatgt ttttttgat tcaagatcca acattattgc tcccaaacca aatagtaagc 540
agcaaaaatt taattccctt tagcagtggg actttgtcta taaacagctt aaatcaagaa 600
gaatatattt ttaattcctt aatcaaaaaca aataatccac caatactaaa aatattgtca 660
aaaaagttaa ttccaaccgt cttgacaaac atgacaaaac tcacaatatc aagccacata 720
aagaccacaa taaaagacca aaatacgggt gaaatagaat ttaatatcca aaaatctagt 780
gttgaaagcc ttatagaaaa actagcttca aatattcaaa cctaa 825
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<210> 263

<211> 762

<212> DNA

<213> Homo sapiens

<400> 263

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tataaatcag ttcttgggct tataagcaat ttatacttta gctataaaaa agaaaataac 180
gattttgtct tactaataat gggtaatttc ccaaaagata ttttctgggg aattcataaa 240
aatagaaata cagaatcaat aggcaatata ttacaaaatc caaaatggaa acttaaaaaa 300
tcaaatatat acattattcc aaacaaagct agaactagca ttgcaataac caaaaaagat 360
ataaccgcaa aagacaataa tatgctaaca acaaaatata ttggggaaat agaaaaaaat 420
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gaaatgtttt tttggattca agatccaaca ttattgctcc caaaccaaat agtaagcagc 480  
 aaaaattttaa ttcccttttag cagtggaaact ttgtctataa acagcttaaa tcaagaagaa 540  
 tatattttta aatccttaat caaaacaaat aatccaccaa tactaaaaat attgtcaaaa 600  
 aagttaattc caaccgtctt gacaaacatg acaaacctca caatatcaag ccacataaag 660  
 accacaataa aagacaaaaa tacggttgaa atagaattta atattcaaaa atctagtgtt 720  
 gaaagcctta tagaaaaact agcttcaaat attcaaacct aa 762

<210> 264

<211> 136

<212> PRT

<213> Homo sapiens

<400> 264

Met Gly Ile Thr Val Phe Tyr Leu Phe Ser Ile Phe Ala Ser Phe Val  
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Leu Gly Ser Ser Met Asp Ser Val Lys Glu Asn Val Leu Lys Ser Thr  
 20 25 30

Ile Phe Tyr Tyr Asp Val Glu Glu Val Glu Phe Pro Tyr Ala Arg Lys  
 35 40 45

Gln Thr Leu Gln Phe Ile Ala Lys Thr His Leu Lys Tyr Ala Val Phe  
 50 55 60

Asn Phe Asp Lys Asn Lys Met Phe Ser Tyr Thr Phe Val Phe Asp Lys  
 65 70 75 80

Lys Leu Ile Ser Gln Tyr Ala Ile Phe Ile Glu Val Lys Lys Lys Phe  
 85 90 95

Gly Glu Ala Thr Leu Val Thr Pro Leu Asn Tyr Leu Trp Asp Leu Gly  
 100 105 110

Asp Ser Ile Ile Val Leu Asn Lys Asn Ile Leu Arg Ile Thr Leu Lys  
 115 120 125

Ser Tyr Ile Ser Asn Tyr Asn Lys  
 130 135

<210> 265

<211> 117

<212> PRT

<213> Homo sapiens

<400> 265

Ser Met Asp Ser Val Lys Glu Asn Val Leu Lys Ser Thr Ile Phe Tyr  
 1 5 10 15

Tyr Asp Val Glu Glu Val Glu Phe Pro Tyr Ala Arg Lys Gln Thr Leu  
 20 25 30

Gln Phe Ile Ala Lys Thr His Leu Lys Tyr Ala Val Phe Asn Phe Asp  
 35 40 45

Lys Asn Lys Met Phe Ser Tyr Thr Phe Val Phe Asp Lys Lys Leu Ile  
 50 55 60



Ser Gln Tyr Ala Ile Phe Ile Glu Val Lys Lys Lys Phe Gly Glu Ala  
65 70 75 80

Thr Leu Val Thr Pro Leu Asn Tyr Leu Trp Asp Leu Gly Asp Ser Ile  
85 90 95

Ile Val Leu Asn Lys Asn Ile Leu Arg Ile Thr Leu Lys Ser Tyr Ile  
100 105 110

Ser Asn Tyr Asn Lys  
115

<210> 266

<211> 411

<212> DNA

<213> Homo sapiens

<400> 266

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gttgaatttc cttatgctag gaagcagact ttacaattta ttgctaaaac ccatTTaaaa 180  
tatgctgttt ttaattttga caaaaataaa atgttttcgt acacttttgt ttttgataaa 240  
aaattaatat ctcagtatgc aatttttatt gaggtaaaga aaaagtttgg cgaggctaca 300  
ctagtaacgc ctttgaatta tttatgggat cttggtgatt ctattattgt tttaaataaa 360  
aatattttta gaattacttt aaaatcttat atttcaaatt ataataaatg a 411

<210> 267

<211> 354

<212> DNA

<213> Homo sapiens

<400> 267

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aaatatgctg tttttaattt tgacaaaaat aaaatgtttt cgtacacttt tgtttttgat 180  
aaaaaattaa tatctcagta tgcaattttt attgaggtaa agaaaaagtt tggcgaggct 240  
acactagtaa cgcctttgaa ttatttatgg gatcttggtg attctattat tgttttaaat 300  
aaaaatattt taagaattac tttaaaatct tatatttcaa attataataa atga 354

<210> 268

<211> 449

<212> PRT

<213> Homo sapiens

<400> 268

Met Tyr Met Glu Asn Ile Glu Val Arg Gly Gln Pro Asn Phe Phe Gly  
1 5 10 15

Leu Ile Pro Phe Phe Val Phe Ile Ile Ile Tyr Leu Gly Thr Gly Ile  
20 25 30

Tyr Leu Gly Val Ile Gly Val Glu Met Ala Phe Tyr Gln Leu Pro Ala  
35 40 45

Ser Val Ala Met Phe Phe Ala Ser Ile Val Cys Phe Leu Val Phe Lys  
50 55 60

Gly Lys Phe Ser Asp Lys Ile His Ile Phe Ile Lys Gly Ala Ala Gln

65	70	75	80
Tyr Asp Ile Ile	Leu Met Cys Leu Ile	Phe Met Leu Ser Gly Ala Phe	
	85	90	95
Ser Ser Leu Cys Lys Glu Ile Gly Cys Val Glu Thr Val Ala Asn Leu			
	100	105	110
Gly Ile Lys Tyr Ile Asn Pro Asn Trp Ile Val Ser Gly Ile Phe Phe			
	115	120	125
Val Thr Cys Phe Leu Ser Phe Ser Ala Gly Thr Ser Val Gly Ser Ile			
	130	135	140
Val Ala Ile Ala Pro Ile Ala Phe Asn Ile Ala Val Lys Ser Gly Ile			
	145	150	155
Asn Pro Asn Leu Ile Ala Ala Ser Val Met Cys Gly Ala Met Phe Gly			
	165	170	175
Asp Asn Leu Ser Leu Ile Ser Asp Thr Thr Ile Val Ser Ser Arg Thr			
	180	185	190
Gln Gly Ser Ser Ile Leu Asp Val Phe Ile Ser Ser Ser Phe Tyr Ala			
	195	200	205
Phe Pro Ser Ala Ile Leu Thr Phe Phe Ser Phe Phe Phe Leu Ser Glu			
	210	215	220
Asn Leu Ser Asn Ala Thr Asn Phe Leu His Glu Ser Ser Ile Asp Leu			
	225	230	235
Val Lys Thr Val Pro Tyr Leu Met Ile Ile Phe Phe Ser Leu Ala Gly			
	245	250	255
Met Asn Val Phe Ile Val Leu Phe Leu Gly Ile Leu Ser Ile Cys Leu			
	260	265	270
Ile Ser Val Leu Tyr Gly Asn Leu Tyr Phe Leu Asp Val Met Lys Asn			
	275	280	285
Ile Asn Lys Gly Phe Leu Asn Met Ala Asp Leu Ile Phe Leu Ser Ile			
	290	295	300
Leu Thr Gly Gly Val Ser Phe Ala Val Ile His Asn Gly Gly Phe Lys			
	305	310	315
Trp Leu Leu Ile Lys Leu Lys Ser Leu Ile Arg Gly Lys Ser Ser Ala			
	325	330	335
Glu Phe Ser Ile Gly Ala Phe Val Ser Ile Val Asp Val Phe Leu Ala			
	340	345	350
Asn Asn Thr Ile Ala Ile Leu Ile Cys Gly Lys Val Ala Lys Lys Ile			
	355	360	365
Ala Phe Glu Asn Asn Ile Ser Val Gln Arg Ser Ala Ser Ile Leu Asp			
	370	375	380

Met Phe Ser Cys Ile Phe Gln Gly Ile Ile Pro Tyr Gly Ala Gln Met  
385 390 395 400

Ile Ile Leu Val Asn Phe Ser Asn Gly Leu Val Ser Pro Ile Ser Ile  
405 410 415

Leu Pro Phe Leu Val Tyr Phe Gly Phe Leu Leu Phe Phe Val Ile Leu  
420 425 430

Ser Ile Leu Gly Leu Asp Ile Lys Lys Val Phe Leu Phe Phe Leu Lys  
435 440 445

Lys

<210> 269

<211> 389

<212> PRT

<213> Homo sapiens

<400> 269

Leu Val Phe Lys Gly Lys Phe Ser Asp Lys Ile His Ile Phe Ile Lys  
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Gly Ala Ala Gln Tyr Asp Ile Ile Leu Met Cys Leu Ile Phe Met Leu  
20 25 30

Ser Gly Ala Phe Ser Ser Leu Cys Lys Glu Ile Gly Cys Val Glu Thr  
35 40 45

Val Ala Asn Leu Gly Ile Lys Tyr Ile Asn Pro Asn Trp Ile Val Ser  
50 55 60

Gly Ile Phe Phe Val Thr Cys Phe Leu Ser Phe Ser Ala Gly Thr Ser  
65 70 75 80

Val Gly Ser Ile Val Ala Ile Ala Pro Ile Ala Phe Asn Ile Ala Val  
85 90 95

Lys Ser Gly Ile Asn Pro Asn Leu Ile Ala Ala Ser Val Met Cys Gly  
100 105 110

Ala Met Phe Gly Asp Asn Leu Ser Leu Ile Ser Asp Thr Thr Ile Val  
115 120 125

Ser Ser Arg Thr Gln Gly Ser Ser Ile Leu Asp Val Phe Ile Ser Ser  
130 135 140

Ser Phe Tyr Ala Phe Pro Ser Ala Ile Leu Thr Phe Phe Ser Phe Phe  
145 150 155 160

Phe Leu Ser Glu Asn Leu Ser Asn Ala Thr Asn Phe Leu His Glu Ser  
165 170 175

Ser Ile Asp Leu Val Lys Thr Val Pro Tyr Leu Met Ile Ile Phe Phe  
180 185 190

Ser Leu Ala Gly Met Asn Val Phe Ile Val Leu Phe Leu Gly Ile Leu  
 195 200 205  
 Ser Ile Cys Leu Ile Ser Val Leu Tyr Gly Asn Leu Tyr Phe Leu Asp  
 210 215 220  
 Val Met Lys Asn Ile Asn Lys Gly Phe Leu Asn Met Ala Asp Leu Ile  
 225 230 235 240  
 Phe Leu Ser Ile Leu Thr Gly Gly Val Ser Phe Ala Val Ile His Asn  
 245 250 255  
 Gly Gly Phe Lys Trp Leu Leu Ile Lys Leu Lys Ser Leu Ile Arg Gly  
 260 265 270  
 Lys Ser Ser Ala Glu Phe Ser Ile Gly Ala Phe Val Ser Ile Val Asp  
 275 280 285  
 Val Phe Leu Ala Asn Asn Thr Ile Ala Ile Leu Ile Cys Gly Lys Val  
 290 295 300  
 Ala Lys Lys Ile Ala Phe Glu Asn Asn Ile Ser Val Gln Arg Ser Ala  
 305 310 315 320  
 Ser Ile Leu Asp Met Phe Ser Cys Ile Phe Gln Gly Ile Ile Pro Tyr  
 325 330 335  
 Gly Ala Gln Met Ile Ile Leu Val Asn Phe Ser Asn Gly Leu Val Ser  
 340 345 350  
 Pro Ile Ser Ile Leu Pro Phe Leu Val Tyr Phe Gly Phe Leu Leu Phe  
 355 360 365  
 Phe Val Ile Leu Ser Ile Leu Gly Leu Asp Ile Lys Lys Val Phe Leu  
 370 375 380  
 Phe Phe Leu Lys Lys  
 385

&lt;210&gt; 270

&lt;211&gt; 1350

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 270

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 aatccgaatt taatagcagc atctgtaatg tgtggagcta tgtttggaga taatctttct 540  
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aaagtttttt tatttttttt aaaaaataa 1350

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&lt;210&gt; 271

&lt;211&gt; 1170

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 271

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&lt;210&gt; 272

&lt;211&gt; 241

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 272

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Met Arg Lys Cys Phe Val Ser Leu Ser Leu Leu Ile Phe Phe Ala
 1             5             10            15

Cys Ser Ser Asn Val Glu Ile Glu Leu Asn Asp Asp Ile Ser Gly Ile
      20             25             30

Val Ser Ile Phe Val Asn Val Asn Arg Glu Phe Glu Lys Ile Arg Lys
    35             40             45

Glu Leu Leu Thr Thr Leu Val Gly Glu Glu Ile Ala Asn Met Pro Leu
 50             55             60

Phe Pro Val Asp Glu Ile Lys Lys Tyr Phe Lys Asn Gly Glu Glu Lys
 65             70             75            80

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Leu Gly Leu Lys Leu Leu Ser Ile Lys Thr Gln Gly Asp Ser Ile Asn  
                     85                    90                    95  
 Leu Val Val Lys Phe Asp Asn Leu Ile Lys Ile Leu Gly Asp Tyr Met  
                     100                    105                    110  
 Lys Lys Pro Asp Ile Ser Val Phe Lys Ile Glu Lys Lys Asp Gly Lys  
                     115                    120                    125  
 Asn Ile Ile Glu Leu Asn Ile Asn Leu Glu Asn Ala Thr Lys Asn Ile  
                     130                    135                    140  
 Asn Glu Asn Lys Glu Tyr Ile Ser Asp Ala Leu Ala Ala Leu Leu Pro  
                     145                    150                    155                    160  
 Ser Asp Glu Ile Pro Met Ser Ala Lys Glu Tyr Lys Asp Val Leu Val  
                     165                    170                    175  
 Tyr Phe Leu Ser Asp Phe Thr Ser Lys Ala Ser Glu Leu Ile Asp Asn  
                     180                    185                    190  
 Ser Lys Leu Asn Leu Val Val Lys Thr Ser Arg Asn Val Gln Glu Gln  
                     195                    200                    205  
 Phe Gly Phe Lys Gln Ile Asn Ser Asn Thr Leu Arg Phe Glu Met Asp  
                     210                    215                    220  
 Met Val Lys Gly Leu Ser Leu Glu Thr Pro Ile Lys Leu Arg Leu Val  
                     225                    230                    235                    240  
 Tyr

<210> 273  
 <211> 223  
 <212> PRT  
 <213> Homo sapiens

<400> 273  
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                     20                    25                    30  
 Leu Thr Thr Leu Val Gly Glu Glu Ile Ala Asn Met Pro Leu Phe Pro  
                     35                    40                    45  
 Val Asp Glu Ile Lys Lys Tyr Phe Lys Asn Gly Glu Glu Lys Leu Gly  
                     50                    55                    60  
 Leu Lys Leu Leu Ser Ile Lys Thr Gln Gly Asp Ser Ile Asn Leu Val  
                     65                    70                    75                    80  
 Val Lys Phe Asp Asn Leu Ile Lys Ile Leu Gly Asp Tyr Met Lys Lys  
                     85                    90                    95

Pro Asp Ile Ser Val Phe Lys Ile Glu Lys Lys Asp Gly Lys Asn Ile  
100 105 110

Ile Glu Leu Asn Ile Asn Leu Glu Asn Ala Thr Lys Asn Ile Asn Glu  
115 120 125

Asn Lys Glu Tyr Ile Ser Asp Ala Leu Ala Ala Leu Leu Pro Ser Asp  
130 135 140

Glu Ile Pro Met Ser Ala Lys Glu Tyr Lys Asp Val Leu Val Tyr Phe  
145 150 155 160

Leu Ser Asp Phe Thr Ser Lys Ala Ser Glu Leu Ile Asp Asn Ser Lys  
165 170 175

Leu Asn Leu Val Val Lys Thr Ser Arg Asn Val Gln Glu Gln Phe Gly  
180 185 190

Phe Lys Gln Ile Asn Ser Asn Thr Leu Arg Phe Glu Met Asp Met Val  
195 200 205

Lys Gly Leu Ser Leu Glu Thr Pro Ile Lys Leu Arg Leu Val Tyr  
210 215 220

<210> 274

<211> 726

<212> DNA

<213> Homo sapiens

<400> 274

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aatatgcctc tttttcctgt agatgaaata aaaaaatact ttaaaaatgg agaggaaaag 240
cttgggctta agcttttgag tattaaaacc caaggagatt ctattaattt agttgttaag 300
tttgataatt taattaaaat tttaggcgat tatatgaaaa aacccgatat atctgtgttt 360
aagatagaaa aaaaagatgg taaaaatatt attgaactta atattaattt ggaaaacgct 420
actaagaata ttaatgaaaa taagaatat attagtgatg cacttgctgc tcttttgcca 480
tcggatgaga tcccaatgtc tgccaaagaa tataaagatg ttttggttta ttttttatcg 540
gattttactt ccaaagcaag tgaacttatt gacaattcca aacttaattc tgtagttaag 600
acttctagaa atgttcaaga acaatttgga ttcaaacaaa ttaactcaaa cacactgcgg 660
tttgagatgg atatgggtaa aggattaagt cttgaaacac caataaaact tagattagtt 720
tattga 726
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<210> 275

<211> 672

<212> DNA

<213> Homo sapiens

<400> 275

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attgcaaata tgctctttt tcctgtagat gaaataaaaa aatactttta aaatggagag 180
gaaaagcttg ggcttaagct tttgagtatt aaaacccaag gagattctat taatttagtt 240
gttaagtgtt ataatttaata taaaatttta ggcgattata tgaaaaaacc cgatataatc 300
gtgtttaaga tagaaaaaaa agatggtaaa aatattattg aacttaatat taatttggaa 360
aacgctacta agaataatata tgaaaaataa gaatatatta gtgatgcact tgcgtctctt 420
ttgccatcgg atgagatccc aatgtctgccc aaagaatata aagatgtttt ggtttatttt 480
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ttatcggtt ttacttccaa agcaagtga cttattgaca attccaaact taatcttgta 540  
 gttaagactt ctgaaatgt tcaagaacaa tttggattca aacaaattaa ctcaaacaca 600  
 ctgcggtttg agatggatat ggtaaagga ttaagtcttg aaacaccaat aaaacttaga 660  
 ttagtttatt ga 672

<210> 276

<211> 320

<212> PRT

<213> Homo sapiens

<400> 276

Met Asn Ile Arg Lys Leu Leu Phe Cys Ile Phe Phe Met Asn Ile Ser  
 1 5 10 15

Phe Leu Leu Phe Ala Gly Asp Tyr Lys Gly Leu Asp Phe Lys Ile Lys  
 20 25 30

Phe Phe Asn Gln Ser Ile Tyr Arg Val Asn Ser Asn Val Phe Ile Glu  
 35 40 45

Val Ser Leu Ser Asn Ala Ser Glu Ser Val Leu Thr Leu Glu Ile Gly  
 50 55 60

Asp Ile Asn Ser Phe Gly Phe Asp Phe Asp Val Thr Asp Thr Thr Asn  
 65 70 75 80

Ile Lys Val Lys Arg Pro Ile Glu Tyr Val Lys Lys Arg Ser Lys Asn  
 85 90 95

Val Ala Ile Pro Val Arg Asn Met Ser Leu Arg Pro Asn Glu Lys Phe  
 100 105 110

Ser Val Val Ile Asn Leu Asn Gln Phe Val Lys Phe Ser Lys Asp Gly  
 115 120 125

Val Tyr Phe Val Lys Gly Ile Phe Phe Pro Asp Ile Ser Asp Pro Ser  
 130 135 140

Lys Lys Lys Glu Ser Asn Ile Ile Thr Leu Phe Leu Asn Asp Gly Phe  
 145 150 155 160

Asp Glu Asn Pro Gly Ser Ile Asp Leu Val Asn Leu Ser Glu Asn Asn  
 165 170 175

Asp Ile Gln Asp Ile Leu Lys Lys Lys Lys Leu Ser Pro Asp Glu Ile  
 180 185 190

Val Lys Tyr Leu Leu Lys Ala Leu Gln Leu Gly Lys Lys Glu Lys Phe  
 195 200 205

Phe Leu Tyr Leu Asp Ile Glu Gly Leu Leu Leu Asn Asp Lys Gly Lys  
 210 215 220

Ala Tyr Leu Tyr Lys Gln Lys Leu Ser Pro Ile Pro Asn Lys Asn Val  
 225 230 235 240

Val Glu Glu Tyr Lys Glu Tyr Leu Trp Asn Ser Asn Asn Ser Asp Ile  
 245 250 255



Ser Lys Ala Pro Asn Lys Phe Ser Ile Ile Glu Thr Thr Tyr Ser Asp  
 260 265 270  
 Thr Ser Gly Lys Val Ile Ala Asp Leu Tyr Phe Asp Asp Gly Gln Phe  
 275 280 285  
 Tyr Ile Ser Lys Arg Tyr Thr Phe Phe Phe Lys Lys Tyr Asp Tyr Tyr  
 290 295 300  
 Trp Ile Ile Tyr Asp Tyr Ile Val Gln Asn Thr Gly Ile Lys Glu Lys  
 305 310 315 320

<210> 277  
 <211> 299  
 <212> PRT  
 <213> Homo sapiens

<400> 277  
 Gly Asp Tyr Lys Gly Leu Asp Phe Lys Ile Lys Phe Phe Asn Gln Ser  
 1 5 10 15  
 Ile Tyr Arg Val Asn Ser Asn Val Phe Ile Glu Val Ser Leu Ser Asn  
 20 25 30  
 Ala Ser Glu Ser Val Leu Thr Leu Glu Ile Gly Asp Ile Asn Ser Phe  
 35 40 45  
 Gly Phe Asp Phe Asp Val Thr Asp Thr Thr Asn Ile Lys Val Lys Arg  
 50 55 60  
 Pro Ile Glu Tyr Val Lys Lys Arg Ser Lys Asn Val Ala Ile Pro Val  
 65 70 75 80  
 Arg Asn Met Ser Leu Arg Pro Asn Glu Lys Phe Ser Val Val Ile Asn  
 85 90 95  
 Leu Asn Gln Phe Val Lys Phe Ser Lys Asp Gly Val Tyr Phe Val Lys  
 100 105 110  
 Gly Ile Phe Phe Pro Asp Ile Ser Asp Pro Ser Lys Lys Lys Glu Ser  
 115 120 125  
 Asn Ile Ile Thr Leu Phe Leu Asn Asp Gly Phe Asp Glu Asn Pro Gly  
 130 135 140  
 Ser Ile Asp Leu Val Asn Leu Ser Glu Asn Asn Asp Ile Gln Asp Ile  
 145 150 155 160  
 Leu Lys Lys Lys Lys Leu Ser Pro Asp Glu Ile Val Lys Tyr Leu Leu  
 165 170 175  
 Lys Ala Leu Gln Leu Gly Lys Lys Glu Lys Phe Phe Leu Tyr Leu Asp  
 180 185 190

Ile Glu Gly Leu Leu Leu Asn Asp Lys Gly Lys Ala Tyr Leu Tyr Lys  
195 200 205

Gln Lys Leu Ser Pro Ile Pro Asn Lys Asn Val Val Glu Glu Tyr Lys  
210 215 220

Glu Tyr Leu Trp Asn Ser Asn Asn Ser Asp Ile Ser Lys Ala Pro Asn  
225 230 235 240

Lys Phe Ser Ile Ile Glu Thr Thr Tyr Ser Asp Thr Ser Gly Lys Val  
245 250 255

Ile Ala Asp Leu Tyr Phe Asp Asp Gly Gln Phe Tyr Ile Ser Lys Arg  
260 265 270

Tyr Thr Phe Phe Phe Lys Lys Tyr Asp Tyr Tyr Trp Ile Ile Tyr Asp  
275 280 285

Tyr Ile Val Gln Asn Thr Gly Ile Lys Glu Lys  
290 295

<210> 278

<211> 963

<212> DNA

<213> Homo sapiens

<400> 278

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atgaatatta gaaaattgct tttttgtatc ttttttatga atatttcctt tcttttgtt 60
gcgggagatt acaagggcct tgattttaaa atcaagtttt ttaatcaatc tatttatcgt 120
gtcaatagta atgtttttat tgaagtttct cttagtaatg cgtctgagag tgttttaact 180
ttagaaatag gcgatattaa ttcttttggc ttgtatttg atgttactga taccaccaat 240
attaaagtta aaagacctat tgaatatgtt aaaaagagat ctaaaaatgt tgcaattcct 300
gttagaaata tgagcttgag acctaatgaa aaattttctg tagttattaa cttaaataca 360
tttgtaagt ttagtaaaaga tggagtttat tttgttaagg gtattttttt cccagacatt 420
tcagatccat ctaagaaaaa agaatccaat attattacgc tttttttgaa tgatggtttt 480
gatgaaaatc caggtagcat agacctgtgt aatttgtctg aaaataatga tattcaagat 540
atcttgaaaa agaaaaaatt atctcccgat gaaattgtta aatatttgtt aaaggcattg 600
cagcttggga aaaaagaaaa gttcttttta tatcttgata ttgaagggtt gttattaaat 660
gacaagggca aggcatacct ttataagcaa aagttatcac ctattcccaa taaaaatgta 720
gttgaagagt ataaagaata tttgtggaat tctaataatt cggatatttc aaaagcacca 780
aataaatttt ctattattga aactacttat tctgatactt ctggcaaggt gattgctgat 840
ttatattttg acgatgggca attttatatt tccaaaagat atactttctt ctttaaaaaa 900
tatgattatt attggataat ttatgattac attgttcaaa atactggcat taaggaaaag 960
taa 963
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<210> 279

<211> 900

<212> DNA

<213> Homo sapiens

<400> 279

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ggagattaca agggccttga ttttaaaatc aagtttttta atcaatctat ttatcgtgtc 60
aatagtaatg tttttattga agtttctctt agtaatgcgt ctgagagtgt tttaacttta 120
gaaataggcg atattaattc ttttggcttt gattttgatg ttactgatac caccaatatt 180
aaagttaaaa gacctattga atatgttaaa aagagatcta aaaatgttgc aattcctgtt 240
agaaatatga gcttgagacc taatgaaaaa ttttctgtag ttattaactt aaatcaattt 300
gttaagttta gtaaagatgg agtttatatt gttaagggtta tttttttccc agacatttca 360
gatccatcta agaaaaaaga atccaatatt attacgcttt ttttgaatga tggttttgat 420
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gaaaatccag gtagcataga ccttggttaat ttgtctgaaa ataatgatat tcaagatatc 480  
 ttgaaaaaga aaaaattatc tcccgatgaa attgttaaat atttggttaa ggcatcgcag 540  
 cttgggaaaa aagaaaagtt ctttttatat cttgatattg aaggtttggt attaaatgac 600  
 aagggaagg cataccttta taagcaaaag ttatcaccta ttccaataa aaatgtagtt 660  
 gaagagtata aagaatattt gtggaattct aataattcgg atatttcaaa agcaccaaat 720  
 aaattttcta ttattgaaac tacttattct gatacttctg gcaagggtgat tgctgattta 780  
 tattttgacg atgggcaatt ttatatttcc aaaagatata ctttcttctt taaaaaatat 840  
 gattattatt ggataattta tgattacatt gttcaaaata ctggcattaa ggaaaagtaa 900

<210> 280

<211> 171

<212> PRT

<213> Homo sapiens

<400> 280

Met Asn Trp Leu Ser Phe Phe Tyr Val Leu Leu Phe Leu Leu Ile Phe  
 1 5 10 15  
 Pro Phe Glu Leu Gln Ser Asn Asn Lys Glu Asn Ile Glu Asn Leu Ile  
 20 25 30  
 Lys Leu His Met Leu Tyr Asp Leu Thr Asn Asn Leu Ser Lys Glu Leu  
 35 40 45  
 Glu Thr Ile Asn Lys Ile Lys Asn Phe Asp Leu Glu Gln His Tyr Leu  
 50 55 60  
 Leu Ile Thr Lys Tyr Tyr Leu Lys Ile Lys Lys Tyr Lys Glu Ala Asn  
 65 70 75 80  
 Asp Phe Leu Lys Lys Ile Asn Gln Lys Lys Ile Lys Asn Gln Lys Ile  
 85 90 95  
 Lys Asn Glu Ile Ile Ser Leu Lys Leu Arg Ile Asn Glu Asp Asn Ile  
 100 105 110  
 Asn Glu Glu Glu Ile Lys Lys Ile Leu Asn Asn Glu Lys Asn Ile Asp  
 115 120 125  
 Val Lys Ile Ile Tyr Gln Ile Phe Ser Leu Ile Lys Phe Lys Asn Lys  
 130 135 140  
 Lys Leu Ala Asn Lys Ile Lys Asn Ile Ile Leu Thr Asn Tyr Pro Lys  
 145 150 155 160  
 Ser Ile Tyr Ser Tyr Lys Ile Lys Arg Asn Glu  
 165 170

<210> 281

<211> 149

<212> PRT

<213> Homo sapiens

<400> 281

Asn Asn Lys Glu Asn Ile Glu Asn Leu Ile Lys Leu His Met Leu Tyr  
 1 5 10 15  
 Asp Leu Thr Asn Asn Leu Ser Lys Glu Leu Glu Thr Ile Asn Lys Ile

20

25

30

Lys Asn Phe Asp Leu Glu Gln His Tyr Leu Leu Ile Thr Lys Tyr Tyr  
 35 40 45

Leu Lys Ile Lys Lys Tyr Lys Glu Ala Asn Asp Phe Leu Lys Lys Ile  
 50 55 60

Asn Gln Lys Lys Ile Lys Asn Gln Lys Ile Lys Asn Glu Ile Ile Ser  
 65 70 75 80

Leu Lys Leu Arg Ile Asn Glu Asp Asn Ile Asn Glu Glu Glu Ile Lys  
 85 90 95

Lys Ile Leu Asn Asn Glu Lys Asn Ile Asp Val Lys Ile Ile Tyr Gln  
 100 105 110

Ile Phe Ser Leu Ile Lys Phe Lys Asn Lys Lys Leu Ala Asn Lys Ile  
 115 120 125

Lys Asn Ile Ile Leu Thr Asn Tyr Pro Lys Ser Ile Tyr Ser Tyr Lys  
 130 135 140

Ile Lys Arg Asn Glu  
 145

&lt;210&gt; 282

&lt;211&gt; 516

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 282

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atgaactggc tacccttttt ttatgtttta ttatttttat taatttttcc ttttgaatta 60
cagagtaata ataaagaaaa tatagaaaat ttaataaagc tacatatgct ttatgattta 120
accaataacc tgtcaaaaga attagaaaaca ataaataaaa ttaaaaattt tgacttagaa 180
caacattatc tgctaattac aaaatattat ctaaaaataa aaaaatataa agaagcta 240
gattttttta aaaaaataaa caaaaaaaag atcaaaaatc aaaaaataaa aaacgaaatc 300
atttcgctaa aattaagaat aaatgaagat aatattaatg aagaagaaat caaaaaaatt 360
ttaaataacg aaaaaaatat agatgtcaaa ataattttatc aaatattcag tcttataaaa 420
tttaaaaata aaaaattagc aaataaaatt aaaaacataa tactaacaaa ctatcccaaa 480
agcattttatt cttataaaat aaaaagaaat gaataa 516

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&lt;210&gt; 283

&lt;211&gt; 450

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 283

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aataataaag aaaatataga aaatttaata aagctacata tgctttatga ttttaaccaat 60
aacctgtcaa aagaattaga aacaataaat aaaaattaaaa attttgactt agaacaacat 120
tatctgctaa ttacaaaata ttatctaaaa ataaaaaaat ataaagaagc taatgatttt 180
ttaaaaaaaa taaccacaaa aaagatcaaa aatcaaaaaa taaaaaacga aatcatttcg 240
ctaaaattaa gaataaatga agataatatt aatgaagaag aaatcaaaaa aatttttaaat 300
aacgaaaaaa atatatagatg caaaataaatt tatcaaatat tcagtcttat aaaaatttaa 360
aataaaaaat tagcaaataa aattaaaaac ataatactaa caaactatcc caaaagcatt 420
tattcttata aaataaaaaa aaatgaataa 450

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&lt;210&gt; 284

&lt;211&gt; 405

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 284

Met Asn Ser Ile Tyr Val Ile Gly Lys Leu Leu Leu Thr Leu Phe Leu  
 1 5 10 15

Ile Phe Phe Pro Phe Cys Tyr Asn Leu Phe Ala Val Asn Leu Ala Glu  
 20 25 30

Ile Asn Lys Leu Ser Glu Tyr Ala Lys Ser Ile Val Leu Ile Asp Phe  
 35 40 45

Asp Thr Lys Arg Ile Leu Tyr Ser Lys Lys Pro Asn Leu Val Phe Pro  
 50 55 60

Pro Ala Ser Leu Thr Lys Ile Val Thr Ile Tyr Thr Ala Leu Ile Glu  
 65 70 75 80

Ala Glu Lys Arg Asn Ile Lys Leu Lys Ser Ile Val Pro Ile Ser Asp  
 85 90 95

Ser Ala Ser Tyr Tyr Asn Ala Pro Pro Asn Ser Ser Leu Met Phe Leu  
 100 105 110

Glu Lys Gly Gln Ile Val Asn Phe Glu Glu Ile Leu Lys Gly Leu Ser  
 115 120 125

Val Ser Ser Gly Asn Asp Ser Ser Ile Ala Ile Ala Glu Phe Val Val  
 130 135 140

Gly Asn Leu Asn Ser Phe Val Asn Leu Met Asn Ile Asn Val Leu Asn  
 145 150 155 160

Leu Gly Leu Phe Asn Met His Phe Val Glu Pro Ser Gly Tyr Ser Ser  
 165 170 175

Glu Asn Lys Ile Thr Ala Leu Asp Met Ala Phe Phe Val Lys Ser Tyr  
 180 185 190

Ile Glu Lys Phe Lys Phe Met Leu Asn Ile His Ser Leu Lys Tyr Phe  
 195 200 205

Ile Tyr Pro Lys Ser Arg Asn Leu Gly Thr Ala Leu Ser Ser Lys Phe  
 210 215 220

Leu Asn Leu Lys Gln Arg Asn Ala Asn Leu Leu Ile Tyr Asp Tyr Pro  
 225 230 235 240

Tyr Ser Asp Gly Ile Lys Thr Gly Tyr Ile Lys Glu Ser Gly Leu Asn  
 245 250 255

Leu Val Ala Thr Ala Lys Lys Gly Glu Arg Arg Leu Ile Ala Val Val  
 260 265 270

Leu Gly Val Glu Lys Gly Ile Asn Gly Phe Gly Glu Lys Met Arg Ser  
 275 280 285

Ser Ile Ala Lys Asn Leu Phe Glu Tyr Gly Phe Asn Lys Tyr Ser Lys  
 290 295 300  
 Phe Pro Leu Ile Val Lys Leu Lys Glu Lys Val Tyr Asn Gly Thr Val  
 305 310 315 320  
 Asp Thr Val Ala Leu Phe Ser Lys Glu Pro Phe Tyr Tyr Ile Leu Thr  
 325 330 335  
 Lys Asp Glu Phe Asp Lys Ile Asn Ile Ser Tyr Thr Val Asp Lys Leu  
 340 345 350  
 Val Ala Pro Leu Ser Gly Asp Met Pro Val Gly Arg Ala Met Ile Phe  
 355 360 365  
 Leu Glu Asn Glu Lys Ile Gly Asp Val Ala Leu Phe Ser Gly Lys Val  
 370 375 380  
 Lys Arg Leu Gly Phe Trp Gln Gly Leu Tyr Lys Ser Phe Ile Asn Leu  
 385 390 395 400  
 Phe Ser Arg Glu Tyr  
 405

&lt;210&gt; 285

&lt;211&gt; 378

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 285

Val Asn Leu Ala Glu Ile Asn Lys Leu Ser Glu Tyr Ala Lys Ser Ile  
 1 5 10 15  
 Val Leu Ile Asp Phe Asp Thr Lys Arg Ile Leu Tyr Ser Lys Lys Pro  
 20 25 30  
 Asn Leu Val Phe Pro Pro Ala Ser Leu Thr Lys Ile Val Thr Ile Tyr  
 35 40 45  
 Thr Ala Leu Ile Glu Ala Glu Lys Arg Asn Ile Lys Leu Lys Ser Ile  
 50 55 60  
 Val Pro Ile Ser Asp Ser Ala Ser Tyr Tyr Asn Ala Pro Pro Asn Ser  
 65 70 75 80  
 Ser Leu Met Phe Leu Glu Lys Gly Gln Ile Val Asn Phe Glu Glu Ile  
 85 90 95  
 Leu Lys Gly Leu Ser Val Ser Ser Gly Asn Asp Ser Ser Ile Ala Ile  
 100 105 110  
 Ala Glu Phe Val Val Gly Asn Leu Asn Ser Phe Val Asn Leu Met Asn  
 115 120 125  
 Ile Asn Val Leu Asn Leu Gly Leu Phe Asn Met His Phe Val Glu Pro  
 130 135 140

Ser Gly Tyr Ser Ser Glu Asn Lys Ile Thr Ala Leu Asp Met Ala Phe  
 145 150 155 160  
 Phe Val Lys Ser Tyr Ile Glu Lys Phe Lys Phe Met Leu Asn Ile His  
 165 170 175  
 Ser Leu Lys Tyr Phe Ile Tyr Pro Lys Ser Arg Asn Leu Gly Thr Ala  
 180 185 190  
 Leu Ser Ser Lys Phe Leu Asn Leu Lys Gln Arg Asn Ala Asn Leu Leu  
 195 200 205  
 Ile Tyr Asp Tyr Pro Tyr Ser Asp Gly Ile Lys Thr Gly Tyr Ile Lys  
 210 215 220  
 Glu Ser Gly Leu Asn Leu Val Ala Thr Ala Lys Lys Gly Glu Arg Arg  
 225 230 235 240  
 Leu Ile Ala Val Val Leu Gly Val Glu Lys Gly Ile Asn Gly Phe Gly  
 245 250 255  
 Glu Lys Met Arg Ser Ser Ile Ala Lys Asn Leu Phe Glu Tyr Gly Phe  
 260 265 270  
 Asn Lys Tyr Ser Lys Phe Pro Leu Ile Val Lys Leu Lys Glu Lys Val  
 275 280 285  
 Tyr Asn Gly Thr Val Asp Thr Val Ala Leu Phe Ser Lys Glu Pro Phe  
 290 295 300  
 Tyr Tyr Ile Leu Thr Lys Asp Glu Phe Asp Lys Ile Asn Ile Ser Tyr  
 305 310 315 320  
 Thr Val Asp Lys Leu Val Ala Pro Leu Ser Gly Asp Met Pro Val Gly  
 325 330 335  
 Arg Ala Met Ile Phe Leu Glu Asn Glu Lys Ile Gly Asp Val Ala Leu  
 340 345 350  
 Phe Ser Gly Lys Val Lys Arg Leu Gly Phe Trp Gln Gly Leu Tyr Lys  
 355 360 365  
 Ser Phe Ile Asn Leu Phe Ser Arg Glu Tyr  
 370 375

&lt;210&gt; 286

&lt;211&gt; 1218

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 286

atgaatagta tctatgttat tgggaaattg ttattaactt tatttttaat ttttttcccg 60  
 ttttggtata atctttttgc agttaattta gctgagatta ataaattatc agagtatgca 120  
 aagtcaatag ttttaataga ttttgatact aagcgaatac tttattctaa gaagcccaat 180  
 ttgggttttc ctccagcatc tcttacaaag attgttacaa tttatacagc ttttaattgaa 240  
 gctgaaaagc gaaatataaa attaaaaagc atagttccta ttagcgattc tgcttcatat 300  
 tataatgcac cccccaattc ttctttgatg ttttttagaaa aagggtcaa tgttaatttt 360  
 gaagagattt taaaaggact ttcagtttct tcgggtaatg attcttctat tgcaattgct 420

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gagttttag taggcaattt aaatagcttt gttaatttaa tgaatattaa tgttttaaat 480
ttagggcttt ttaatatgca ttttgttgaa ccttctggat atagcagcga gaataagatt 540
acagcactag atatggcttt ttttgtgaaa tcttatatag aaaagtttaa atttatgctt 600
aatattcatt ctttaaagta ttttatttat ccaaagagta gaaatttagg aactgctttg 660
tcatcaaaat ttttaaactt aaaacaaaga aatgctaatt tattaatata tgattaccct 720
tattcagatg gcattaaaac gggatatatt aaggaatcag gcttaaatct tgttgctact 780
gctaaaaagg gtgagagaag attaatagca gttgtattgg ggggtgaaaa aggaattaat 840
ggatttggag agaaaatgag atcttcgatt gcaaaaaaatt tatttgaata tggatttaat 900
aaatattcta aatttccttt aatagtaaaa ttaaaagaaa aagtctataa tggtagactg 960
gatacagttg ctcttttttc taaagagcct ttttattata ttttaactaa agatgaattt 1020
gataaaaatta atataagtta tactgttgat aaattgggtg ctccacttag tggggatag 1080
cctgttggga gggctatgat ttttttagaa aatgaaaaaa taggggatgt tgccttgttt 1140
agtggcaagg taaaaagatt aggggttttg caaggtcttt ataagagttt tataaatctt 1200
ttttcaagag agtattaa 1218

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&lt;210&gt; 287

&lt;211&gt; 1137

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 287

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gttaatttag ctgagattaa taaattatca gagtatgcaa agtcaatagt tttaatagat 60
tttgatacta agcgaatact ttattctaag aagcccaatt tggtttttcc tccagcatct 120
cttacaaaga ttgttacaaat ttatacagct ttaattgaag ctgaaaagcg aaatataaaa 180
ttaaaaagca tagttcctat tagcgattct gcttcataatt ataatgcacc cccaattct 240
tctttgatgt ttttagaaaa aggtcaaatt gttaattttg aagagatttt aaaaggactt 300
tcagtttctt cgggtaaatga ttcttctatt gcaattgctg agtttgtagt aggcaattta 360
aatagctttg ttaatttaat gaatattaat gttttaaatt tagggctttt taatattgcat 420
tttggtgaac ctctctggata tagcagcgag aataagatta cagcactaga tatggctttt 480
tttggtgaaat cttatataga aaagttaa tttatgctta atattcattc tttaaagtat 540
tttatttatc caaagagtag aaatttagga actgctttgt catcaaaatt tttaaactta 600
aaacaaagaa atgctaattt attaatatat gattaccctt attcagatgg cattaaaacg 660
ggatatatta aggaatcagg cttaaatctt gttgctactg ctaaaaaggg tgagagaaga 720
ttaatagcag ttgtattggg ggttgaaaaa ggaattaatg gatttggaga gaaaatgaga 780
tcttcgattg caaaaaattt atttgaatat ggattttaaata aatattctaa atttccttta 840
atagtaaaat taaaagaaaa agtctataat ggtacagtgg atacagtgtc tcttttttct 900
aaagagcctt tttattatat ttttaactaaa gatgaatttg ataaaattaa tataagttat 960
actgttgata aattggttgc tccacttagt ggggatatgc ctgttgggag ggctatgatt 1020
tttttagaaa atgaaaaaat aggggatgtt gctttgttta gtggcaaggt aaaaagatta 1080
gggttttggc aaggtcttta taagagtttt ataaatcttt tttcaagaga gtattaa 1137

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&lt;210&gt; 288

&lt;211&gt; 500

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 288

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Met Asn Ser Tyr Asp Phe Ile Thr Ala Leu Val Pro Ile Ile Leu Ile
  1             5             10             15

Ile Ile Gly Leu Gly Ile Ile Lys Lys Pro Ala Tyr Tyr Val Ile Pro
          20             25             30

Ile Ser Leu Ile Ala Thr Val Ala Ile Val Ile Phe Tyr Lys Asn Leu
          35             40             45

Gly Ile Val Asn Thr Ser Leu Ala Met Leu Glu Gly Ala Leu Met Gly
          50             55             60

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Ile Trp Pro Ile Ala Thr Val Ile Ile Ala Ala Ile Phe Thr Tyr Lys  
 65 70 75 80  
 Met Ser Glu Asp Gln Lys Asp Ile Glu Thr Ile Lys Asn Ile Leu Ser  
 85 90 95  
 Asn Val Ser Ser Asp Arg Arg Ile Ile Val Leu Leu Val Ala Trp Gly  
 100 105 110  
 Phe Gly Asn Phe Leu Glu Gly Val Ala Gly Tyr Gly Thr Ala Val Ala  
 115 120 125  
 Ile Pro Val Ser Ile Leu Ile Ala Met Gly Phe Glu Pro Phe Phe Ala  
 130 135 140  
 Cys Leu Ile Cys Leu Ile Met Asn Thr Ser Ser Thr Ala Tyr Gly Ser  
 145 150 155 160  
 Val Gly Ile Pro Ile Thr Ser Leu Ala Gln Ala Thr Asn Leu Asp Val  
 165 170 175  
 Asn Ile Val Ser Ser Glu Ile Ala Phe Gln Leu Ile Leu Pro Thr Leu  
 180 185 190  
 Thr Ile Pro Phe Val Leu Val Ile Leu Thr Gly Gly Gly Ile Lys Gly  
 195 200 205  
 Leu Lys Gly Val Phe Leu Leu Thr Leu Leu Ser Gly Met Ser Met Ala  
 210 215 220  
 Ile Ser Gln Val Phe Ile Ser Lys Thr Leu Gly Pro Glu Leu Pro Ala  
 225 230 235 240  
 Ile Leu Gly Ser Ile Leu Ser Met Thr Ile Thr Ile Val Tyr Ala Arg  
 245 250 255  
 Phe Phe Gly Asn Lys Glu Thr Thr Glu Arg Gln Ser Lys Asn Thr Ile  
 260 265 270  
 Ser Leu Ser Lys Gly Ile Ile Ala Cys Ser Pro Tyr Ile Leu Ile Val  
 275 280 285  
 Thr Phe Ile Val Leu Val Ser Pro Leu Phe Asn Lys Ile His Glu Tyr  
 290 295 300  
 Leu Lys Thr Phe Gln Ser Thr Ile Ser Ile Tyr Pro Glu Ala Asn Pro  
 305 310 315 320  
 Leu His Phe Lys Trp Ile Ile Ser Pro Gly Phe Leu Ile Ile Leu Ala  
 325 330 335  
 Thr Thr Ile Ser Tyr Ser Ile Arg Gly Val Pro Met Leu Lys Gln Leu  
 340 345 350  
 Lys Ile Phe Thr Leu Thr Leu Lys Lys Met Ala Leu Ser Ser Phe Ile  
 355 360 365

Ile Ile Cys Ile Val Ala Ile Ser Arg Leu Met Thr His Ser Gly Met  
370 375 380

Ile Arg Asp Leu Ala Asn Gly Ile Ser Ile Ile Thr Gly Lys Phe Gly  
385 390 395 400

Pro Leu Phe Ser Pro Leu Ile Gly Ala Ile Gly Thr Phe Leu Thr Gly  
405 410 415

Ser Asp Thr Val Ser Asn Val Leu Phe Gly Pro Leu Gln Thr Gln Met  
420 425 430

Ala Glu Asn Ile Gly Ala Asn Pro Tyr Trp Leu Ala Ala Ala Asn Thr  
435 440 445

Thr Gly Ala Thr Gly Gly Lys Met Ile Ser Pro Gln Asn Ile Thr Ile  
450 455 460

Ala Thr Thr Thr Ala Gly Leu Ile Gly Gln Glu Gly Lys Leu Leu Ser  
465 470 475 480

Lys Thr Ile Ile Tyr Ala Leu Tyr Tyr Ile Leu Ala Thr Gly Leu Leu  
485 490 495

Val Tyr Leu Val  
500

<210> 289

<211> 416

<212> PRT

<213> Homo sapiens

<400> 289

Gln Lys Asp Ile Glu Thr Ile Lys Asn Ile Leu Ser Asn Val Ser Ser  
1 5 10 15

Asp Arg Arg Ile Ile Val Leu Leu Val Ala Trp Gly Phe Gly Asn Phe  
20 25 30

Leu Glu Gly Val Ala Gly Tyr Gly Thr Ala Val Ala Ile Pro Val Ser  
35 40 45

Ile Leu Ile Ala Met Gly Phe Glu Pro Phe Phe Ala Cys Leu Ile Cys  
50 55 60

Leu Ile Met Asn Thr Ser Ser Thr Ala Tyr Gly Ser Val Gly Ile Pro  
65 70 75 80

Ile Thr Ser Leu Ala Gln Ala Thr Asn Leu Asp Val Asn Ile Val Ser  
85 90 95

Ser Glu Ile Ala Phe Gln Leu Ile Leu Pro Thr Leu Thr Ile Pro Phe  
100 105 110

Val Leu Val Ile Leu Thr Gly Gly Gly Ile Lys Gly Leu Lys Gly Val  
115 120 125

Phe Leu Leu Thr Leu Leu Ser Gly Met Ser Met Ala Ile Ser Gln Val

130	135	140
Phe Ile Ser Lys Thr	Leu Gly Pro Glu Leu	Pro Ala Ile Leu Gly Ser
145	150	155 160
Ile Leu Ser Met Thr	Ile Thr Ile Val Tyr	Ala Arg Phe Phe Gly Asn
165	170	175
Lys Glu Thr Thr	Glu Arg Gln Ser Lys Asn Thr	Ile Ser Leu Ser Lys
180	185	190
Gly Ile Ile Ala Cys Ser	Pro Tyr Ile Leu Ile	Val Thr Phe Ile Val
195	200	205
Leu Val Ser Pro Leu	Phe Asn Lys Ile His	Glu Tyr Leu Lys Thr Phe
210	215	220
Gln Ser Thr Ile Ser	Ile Tyr Pro Glu Ala	Asn Pro Leu His Phe Lys
225	230	235 240
Trp Ile Ile Ser Pro	Gly Phe Leu Ile Ile	Leu Ala Thr Thr Ile Ser
245	250	255
Tyr Ser Ile Arg Gly	Val Pro Met Leu Lys	Gln Leu Lys Ile Phe Thr
260	265	270
Leu Thr Leu Lys Lys	Met Ala Leu Ser Ser	Phe Ile Ile Ile Cys Ile
275	280	285
Val Ala Ile Ser Arg	Leu Met Thr His Ser	Gly Met Ile Arg Asp Leu
290	295	300
Ala Asn Gly Ile Ser	Ile Ile Thr Gly Lys	Phe Gly Pro Leu Phe Ser
305	310	315 320
Pro Leu Ile Gly Ala	Ile Gly Thr Phe Leu	Thr Gly Ser Asp Thr Val
325	330	335
Ser Asn Val Leu Phe	Gly Pro Leu Gln Thr	Gln Met Ala Glu Asn Ile
340	345	350
Gly Ala Asn Pro Tyr	Trp Leu Ala Ala Ala	Asn Thr Thr Gly Ala Thr
355	360	365
Gly Gly Lys Met Ile	Ser Pro Gln Asn Ile	Thr Ile Ala Thr Thr Thr
370	375	380
Ala Gly Leu Ile Gly	Gln Glu Gly Lys Leu	Leu Ser Lys Thr Ile Ile
385	390	395 400
Tyr Ala Leu Tyr Tyr	Ile Leu Ala Thr Gly	Leu Leu Val Tyr Leu Val
405	410	415

&lt;210&gt; 290

&lt;211&gt; 1503

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 290

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atagttatat ttataaaaaa cttgggaata gtaaacacaa gtcttgcaat gcttgagggc 180
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taa 1503

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&lt;210&gt; 291

&lt;211&gt; 1171

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 291

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actgctgttg caattcctgt atcaatatta atagcaatgg gatttgaacc attttttgcc 180
tgcttaatct gttaataat gaacacctca tcaaccgcct acggatctgt gggaaatccc 240
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attttaatag taacttttat agtgcttgta tctcctcttt ttaacaaaat tcatgaatac 660
ctaaaaactt ttcaaagcac tatttagcatt tatccagaag caaatccctt acactttaaa 720
tggattatct ctccgggctt cttgattata cttgcaacaa caatatccta ttcaatacgg 780
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gcaacaacaa ctgctggatt aattggacaa g 1171

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<210> 292  
 <211> 250  
 <212> PRT  
 <213> Homo sapiens

<400> 292

Met Pro Ser Pro Ile Arg Val Phe Phe Leu Val Leu Leu Phe Ile Phe  
 1 5 10 15

Ile Phe Asn Pro Val Leu Ile Ala Met Leu Phe Ile Leu Phe Pro Phe  
 20 25 30

Ile Leu Ile Leu Phe Ser Phe Leu Gly Val Phe Arg Ile Tyr Phe Thr  
 35 40 45

Arg Asp Tyr Ser Tyr Ser Arg Ser Arg Glu Phe Glu Phe Tyr Lys Leu  
 50 55 60

Ser Phe Leu Leu Met Ala Lys Leu Leu Ser Ile Leu Gly Thr Val Thr  
 65 70 75 80

Gly Glu Gln Leu Asn Tyr Val Asn Phe Ile Ile Asn Ser Leu Asn Leu  
 85 90 95

Ser Glu Arg Gly Lys Ser Glu Leu Tyr Thr Ile Phe His Ser Ala Ile  
 100 105 110

Thr Lys Asn Asn Asn Ala Asp Lys Ile Leu Tyr Thr Leu Lys Leu Gly  
 115 120 125

Tyr Phe Gln His Lys Asp Leu Phe Ile Trp Leu Phe Ala Thr Leu Lys  
 130 135 140

Glu Ile Asn Arg Leu Ser Arg Tyr Lys Asn Leu Glu Ala Glu Lys Phe  
 145 150 155 160

Ile Ser Tyr Val Gly Val Phe Leu Glu Leu Glu Ser Asp Gly Tyr Glu  
 165 170 175

Ala Tyr Lys Asp Ile Asn Ile Lys Ile Val Asn Pro Tyr Ser Val Leu  
 180 185 190

Gly Leu Thr Tyr Ser Ala Ser Asp Asp Glu Val Lys Lys Ala Tyr Lys  
 195 200 205

Ser Leu Val Ile Lys Tyr His Pro Asp Lys Phe Ala Asn Asp Pro Val  
 210 215 220

Arg Gln Lys Asp Ala Asn Asp Lys Phe Ile Lys Ile Gln Asp Ala Tyr  
 225 230 235 240

Glu Lys Ile Cys Lys Glu Arg Asn Ile Arg  
 245 250

<210> 293  
 <211> 206  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 293

Ile Tyr Phe Thr Arg Asp Tyr Ser Tyr Ser Arg Ser Arg Glu Phe Glu  
 1 5 10 15  
 Phe Tyr Lys Leu Ser Phe Leu Leu Met Ala Lys Leu Leu Ser Ile Leu  
 20 25 30  
 Gly Thr Val Thr Gly Glu Gln Leu Asn Tyr Val Asn Phe Ile Ile Asn  
 35 40 45  
 Ser Leu Asn Leu Ser Glu Arg Gly Lys Ser Glu Leu Tyr Thr Ile Phe  
 50 55 60  
 His Ser Ala Ile Thr Lys Asn Asn Asn Ala Asp Lys Ile Leu Tyr Thr  
 65 70 75 80  
 Leu Lys Leu Gly Tyr Phe Gln His Lys Asp Leu Phe Ile Trp Leu Phe  
 85 90 95  
 Ala Thr Leu Lys Glu Ile Asn Arg Leu Ser Arg Tyr Lys Asn Leu Glu  
 100 105 110  
 Ala Glu Lys Phe Ile Ser Tyr Val Gly Val Phe Leu Glu Leu Glu Ser  
 115 120 125  
 Asp Gly Tyr Glu Ala Tyr Lys Asp Ile Asn Ile Lys Ile Val Asn Pro  
 130 135 140  
 Tyr Ser Val Leu Gly Leu Thr Tyr Ser Ala Ser Asp Asp Glu Val Lys  
 145 150 155 160  
 Lys Ala Tyr Lys Ser Leu Val Ile Lys Tyr His Pro Asp Lys Phe Ala  
 165 170 175  
 Asn Asp Pro Val Arg Gln Lys Asp Ala Asn Asp Lys Phe Ile Lys Ile  
 180 185 190  
 Gln Asp Ala Tyr Glu Lys Ile Cys Lys Glu Arg Asn Ile Arg  
 195 200 205

&lt;210&gt; 294

&lt;211&gt; 753

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 294

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 ggtgttttta gaatatactt tacaagggat tactcatatt etagatctag agagtttgaa 180  
 ttttataaac tttctttttt attaatggct aaattgctat ctatttttagg aactgtaact 240  
 ggggagcagc taaattatgt caattttatt atcaattctt tgaatttgct tgaacgtggt 300  
 aatcagaat tgtataccat ttttcattct gctattacta aaaataataa tgctgataaa 360  
 attttatata cccttaagct tgggtatttt cagcacaaag atctttttat atggcttttt 420  
 gccactctta aagaaattaa caggctttct aggtataaaa atttagaagc tgaaaaattt 480  
 atttcttatg ttggtgtttt tttagaactt gaatctgatg gttatgaagc ttataaagat 540  
 attaataatta aaattgttaa tccttatagt gttttggggg taacatatag tgctagcgat 600  
 gatgagggtta aaaaggcgta taaaagcctt gttataaaat atcatcctga taagtttgca 660

aatgatcctg taagacaaaa agatgcaa at gataaattta taaaaattca agatgcttat 720  
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<210> 295

<211> 621

<212> DNA

<213> Homo sapiens

<400> 295

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 aattatgtca attttattat caattctttg aatttgtctg aacgtggtaa atcagaattg 180  
 tataccattt ttcattctgc tattactaaa aataataatg ctgataaaat tttatatacc 240  
 ctttaagcttg gttattttca gcacaaagat ctttttatat ggctttttgc cactcttaaa 300  
 gaaattaaca ggctttctag gtataaaaat ttagaagctg aaaaatttat ttcttatgtt 360  
 ggtgtttttt tagaacttga atctgatggt tatgaagctt ataaagatat taatattaaa 420  
 attgtaaatc cttatagtgt tttggggtta acatatagtg ctagcgatga tgaggttaaa 480  
 aaggcgtata aaagccttgt tataaaatat catcctgata agtttgcaaa tgatcctgta 540  
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<210> 296

<211> 323

<212> PRT

<213> Homo sapiens

<400> 296

Met Lys Lys Lys Asn Leu Ser Ile Tyr Met Ile Met Leu Ile Ser Leu  
 1 5 10 15

Leu Ser Cys Asn Thr Ser Asp Pro Asn Glu Leu Thr Arg Lys Lys Met  
 20 25 30

Gln Asp Lys Asn Val Lys Ile Leu Gly Phe Leu Glu Lys Ile Gln Ala  
 35 40 45

Asp Asn Lys Glu Ile Val Glu Lys His Ile Glu Lys Lys Glu Lys Gln  
 50 55 60

Met Val Gln Ala Ala Ser Val Ala Pro Ile Asn Val Glu Ser Asn Phe  
 65 70 75 80

Pro Tyr Tyr Leu Gln Glu Glu Ile Glu Ile Lys Glu Glu Glu Leu Val  
 85 90 95

Pro Asn Thr Asp Glu Glu Lys Lys Ala Glu Lys Ala Ile Ser Asp Gly  
 100 105 110

Ser Leu Glu Phe Ala Lys Leu Val Asp Asp Glu Asn Lys Leu Lys Asn  
 115 120 125

Glu Ser Ala Gln Leu Glu Ser Ser Phe Asn Asn Val Tyr Lys Glu Ile  
 130 135 140

Leu Glu Leu Ala Asp Leu Ile Gln Ala Glu Val His Val Ala Gly Arg  
 145 150 155 160

Ile Asn Ser Tyr Ile Lys Lys Arg Lys Thr Thr Lys Glu Lys Glu Tyr

	165		170		175
Lys Lys Arg Glu Ile Lys Asn Lys Ile Glu Lys Gln Ala Leu Ile Lys	180		185		190
Leu Phe Asn Gln Leu Leu Glu Lys Arg Gly Asp Ile Glu Asn Leu His	195		200		205
Thr Gln Leu Asn Ser Gly Leu Ser Glu Arg Ala Ser Ala Lys Tyr Phe	210		215		220
Phe Glu Lys Ala Lys Glu Thr Leu Lys Ala Ala Ile Thr Glu Arg Leu	225		230		235
Asn Asn Lys Arg Lys Asn Arg Pro Trp Trp Ala Arg Arg Thr His Ser	245		250		255
Asn Leu Ala Ile Gln Ala Lys Asn Glu Ala Glu Asp Ala Leu Asn Gln	260		265		270
Leu Ser Thr Ser Ser Phe Arg Ile Leu Glu Ala Met Lys Ile Lys Glu	275		280		285
Asp Val Lys Gln Leu Leu Glu Glu Val Lys Ser Phe Leu Asp Ser Ser	290		295		300
Lys Ser Lys Ile Phe Ser Ser Gly Asp Arg Leu Tyr Asp Phe Leu Glu	305		310		315
Thr Ser Lys					320

<210> 297  
 <211> 299  
 <212> PRT  
 <213> Homo sapiens

<400> 297  
 Asn Glu Leu Thr Arg Lys Lys Met Gln Asp Lys Asn Val Lys Ile Leu  
 1 5 10 15  
 Gly Phe Leu Glu Lys Ile Gln Ala Asp Asn Lys Glu Ile Val Glu Lys  
 20 25 30  
 His Ile Glu Lys Lys Glu Lys Gln Met Val Gln Ala Ala Ser Val Ala  
 35 40 45  
 Pro Ile Asn Val Glu Ser Asn Phe Pro Tyr Tyr Leu Gln Glu Glu Ile  
 50 55 60  
 Glu Ile Lys Glu Glu Glu Leu Val Pro Asn Thr Asp Glu Glu Lys Lys  
 65 70 75 80  
 Ala Glu Lys Ala Ile Ser Asp Gly Ser Leu Glu Phe Ala Lys Leu Val  
 85 90 95  
 Asp Asp Glu Asn Lys Leu Lys Asn Glu Ser Ala Gln Leu Glu Ser Ser  
 100 105 110



Phe Asn Asn Val Tyr Lys Glu Ile Leu Glu Leu Ala Asp Leu Ile Gln  
 115 120 125  
 Ala Glu Val His Val Ala Gly Arg Ile Asn Ser Tyr Ile Lys Lys Arg  
 130 135 140  
 Lys Thr Thr Lys Glu Lys Glu Tyr Lys Lys Arg Glu Ile Lys Asn Lys  
 145 150 155 160  
 Ile Glu Lys Gln Ala Leu Ile Lys Leu Phe Asn Gln Leu Leu Glu Lys  
 165 170 175  
 Arg Gly Asp Ile Glu Asn Leu His Thr Gln Leu Asn Ser Gly Leu Ser  
 180 185 190  
 Glu Arg Ala Ser Ala Lys Tyr Phe Phe Glu Lys Ala Lys Glu Thr Leu  
 195 200 205  
 Lys Ala Ala Ile Thr Glu Arg Leu Asn Asn Lys Arg Lys Asn Arg Pro  
 210 215 220  
 Trp Trp Ala Arg Arg Thr His Ser Asn Leu Ala Ile Gln Ala Lys Asn  
 225 230 235 240  
 Glu Ala Glu Asp Ala Leu Asn Gln Leu Ser Thr Ser Ser Phe Arg Ile  
 245 250 255  
 Leu Glu Ala Met Lys Ile Lys Glu Asp Val Lys Gln Leu Leu Glu Glu  
 260 265 270  
 Val Lys Ser Phe Leu Asp Ser Ser Lys Ser Lys Ile Phe Ser Ser Gly  
 275 280 285  
 Asp Arg Leu Tyr Asp Phe Leu Glu Thr Ser Lys  
 290 295

&lt;210&gt; 298

&lt;211&gt; 972

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 298

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 ggattttttaag agaaaattca agcagataat aaagaaattg ttgaaaaaca tatagaaaaa 180  
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 aataacaaac gtaaaaatcg gccatggtgg gcaagaagaa cacatagtaa tttagcaata 780  
 caggcaaaaa atgaggcaga ggatgcttta aaccaattaa gtacttcttc ttttaggata 840  
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ctagattctt caaagagcaa aatcttttct agtggcgata gattatatga ttttttagag 960  
acgagtaaataa aa 972

<210> 299

<211> 900

<212> DNA

<213> Homo sapiens

<400> 299

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atgggtgcagg ctgcttctgt agcacctatt aatgtagaga gtaatttccc atattatctt 180  
caagaagaaa tagagataaa agaagaagag ttgggttccaa atactgatga agaaaagaag 240  
gcagagaagg caattagcga tgggagtctt gaatttgcta aattagttga tgatgaaaat 300  
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ttagaacttg cagatttaac acaagcagag gtgcatgttg caggaaggat aaatagctat 420  
ataaaaaaaa gaaagaccac taaagaaaaa gaataataga agagagaaat taagaataag 480  
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gaaatcttc atactcaatt aaatagtggg cttagcgaga gagcatctgc aaaatacttt 600  
tttgagaaaag ccaaagaaac tttaaaagct gctattactg aaagattaaa taacaaacgt 660  
aaaaatcggc catggtgggc aagaagaaca catagtaatt tagcaataca ggcaaaaaat 720  
gaggcagagg atgctttaa ccaattaagt acttcttctt ttaggatact tgaagcaatg 780  
aaaataaagg aagatgtaaa acagcttctt gaagaagtaa aatcttttct agattcttca 840  
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<210> 300

<211> 260

<212> PRT

<213> Homo sapiens

<400> 300

Met Asn Lys Lys Ile Leu Thr Leu Leu Val Leu Ile Leu Ser Ile Ser  
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Ser Val Leu Met Leu Ser Lys Ser Ile Thr Lys Lys Ser Lys Tyr Lys  
20 25 30  
Ile Ile Arg Asp Tyr Phe Ile Asn Ser Asn Tyr Val Leu Val Lys Ile  
35 40 45  
Glu Asn Lys Asp Leu Lys Phe Thr Ile Ser Lys Pro Ile Tyr Asp Lys  
50 55 60  
Lys Leu Asn Asn Tyr Phe Phe Lys Gly Gln Thr Thr Ser His Phe Leu  
65 70 75 80  
Ile Ser Asn Asn Val Asp Ile Ala Ile Asn Thr Ser Pro Tyr Glu Val  
85 90 95  
Lys Gln Asn Met Phe Phe Pro Lys Gly Leu Tyr Ile Tyr Asn Lys Lys  
100 105 110  
Met Ile Ser Lys Gln Ile Asn Asn Tyr Gly Glu Ile Val Ile Lys His  
115 120 125  
Asn Lys Ile Ile Leu Asn Pro Lys Glu Asp Glu Ile Glu Asn Cys Asp  
130 135 140

Tyr Gly Phe Ser Gly Phe Phe Val Leu Ile Lys Asn Gly Lys Tyr Lys  
145 150 155 160

Lys Asn Phe Lys Glu Thr Arg His Pro Arg Thr Ile Ile Gly Thr Asp  
165 170 175

Lys Asn Asn Lys His Leu Phe Leu Val Thr Ile Glu Gly Arg Gly Val  
180 185 190

Asn Asn Ser Lys Gly Ala Ser Leu Asn Glu Ala Ile Asp Phe Ala Leu  
195 200 205

Ser Tyr Gly Met Thr Asn Ala Ile Asn Leu Asp Gly Gly Gly Ser Ser  
210 215 220

Thr Leu Val Val Lys Ser Asn Asn Ala Pro Tyr Lys Leu Asn Phe Thr  
225 230 235 240

Ala Asn Ile Phe Gly Gln Glu Arg Pro Val Pro Phe His Leu Gly Ile  
245 250 255

Lys Leu Pro Asn  
260

<210> 301

<211> 240

<212> PRT

<213> Homo sapiens

<400> 301

Leu Ser Lys Ser Ile Thr Lys Lys Ser Lys Tyr Lys Ile Ile Arg Asp  
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Tyr Phe Ile Asn Ser Asn Tyr Val Leu Val Lys Ile Glu Asn Lys Asp  
20 25 30

Leu Lys Phe Thr Ile Ser Lys Pro Ile Tyr Asp Lys Lys Leu Asn Asn  
35 40 45

Tyr Phe Phe Lys Gly Gln Thr Thr Ser His Phe Leu Ile Ser Asn Asn  
50 55 60

Val Asp Ile Ala Ile Asn Thr Ser Pro Tyr Glu Val Lys Gln Asn Met  
65 70 75 80

Phe Phe Pro Lys Gly Leu Tyr Ile Tyr Asn Lys Lys Met Ile Ser Lys  
85 90 95

Gln Ile Asn Asn Tyr Gly Glu Ile Val Ile Lys His Asn Lys Ile Ile  
100 105 110

Leu Asn Pro Lys Glu Asp Glu Ile Glu Asn Cys Asp Tyr Gly Phe Ser  
115 120 125

Gly Phe Phe Val Leu Ile Lys Asn Gly Lys Tyr Lys Lys Asn Phe Lys  
130 135 140

Glu Thr Arg His Pro Arg Thr Ile Ile Gly Thr Asp Lys Asn Asn Lys

145					150					155					160
His	Leu	Phe	Leu	Val	Thr	Ile	Glu	Gly	Arg	Gly	Val	Asn	Asn	Ser	Lys
				165					170					175	
Gly	Ala	Ser	Leu	Asn	Glu	Ala	Ile	Asp	Phe	Ala	Leu	Ser	Tyr	Gly	Met
			180					185					190		
Thr	Asn	Ala	Ile	Asn	Leu	Asp	Gly	Gly	Gly	Ser	Ser	Thr	Leu	Val	Val
		195					200					205			
Lys	Ser	Asn	Asn	Ala	Pro	Tyr	Lys	Leu	Asn	Phe	Thr	Ala	Asn	Ile	Phe
	210					215					220				
Gly	Gln	Glu	Arg	Pro	Val	Pro	Phe	His	Leu	Gly	Ile	Lys	Leu	Pro	Asn
225					230					235					240

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<210> 302
<211> 783
<212> DNA
<213> Homo sapiens
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<400>	302								
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atttacgaca	aaaagctaaa	taattacttc	tttaaaggcc	aaacaacaag	ccattttctta	240			
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tacggagaga	ttgtaataaa	gcacacaaa	attatatttaa	attcccaagg	agacgaaata	420			
gaaaactgcg	attatggatt	tagcggattt	tttgttttaa	tcaaaaacgg	aaagtataaa	480			
aaaaatttta	aagaacaag	gcacccaaga	acaataatag	gaactgataa	aaataacaag	540			
cattttatttc	ttgttacaat	agaagggaagg	ggtgtcaata	atagcaaagg	ggcctctctt	600			
aatgaagcta	ttgattttgc	attaagctac	ggcatgacta	acgctattaa	cttagacggg	660			
gggggctcaa	gcactcttgt	tgtaaaatca	aataacgctc	cttacaatt	aaacttcaca	720			
gcaaacatct	ttggacagga	aagacctgtc	ccatttcatt	taggaataaa	acttcctaata	780			
tca						783			

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<210> 303
<211> 723
<212> DNA
<213> Homo sapiens
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<400> 303							
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agcaattatg	ttctggtgaa	aattgaaaaa	aaagacttaa	aatttaccat	atcaaaacct	120	
atttcagaca	aaagtctaaa	taattacttc	tttaaaggcc	aaacaacaag	ccattttctta	180	
attttcaaca	atgtgtgacat	tgcaattaac	acaagtcct	acgaagttaa	acaaaacatg	240	
tttttcccaa	aaggactata	catatataat	aaaaaaatga	tttcaaaaca	aataaataac	300	
tacggagaga	ttgtaataaa	gcacaacaaa	attatattaa	atcccaagga	agacgaaata	360	
gaaaactgcg	attatggatt	tagcggattt	tttgttttaa	tcaaaaacgg	aaagataaaa	420	
aaaaattttt	aagaaaacaag	gcacccaaga	acaataatag	gaactgataa	aaataacaag	480	
cattttattc	ttgttacaat	agaagggaag	gggtctaata	atagcaaaag	ggcctctctt	540	
aatgaagcta	ttgattttgc	attaagctac	ggcatgacta	acgctattaa	tctagacggg	600	
gggggctcaa	gcactcttgt	tgtaaaatca	aataacgctc	cttacaatt	aaacttcaca	660	

gcaaacatct ttggacagga aagacctgtc ccatttcatt taggaataaaa acttcctaatt 720  
tga 723

<210> 304

<211> 237

<212> PRT

<213> Homo sapiens

<400> 304

Met Gln Leu Leu Lys Asn Lys Tyr Pro Phe Lys Arg Ala Leu Leu Asp  
1 5 10 15

Leu Phe Leu Val Tyr Ala Ile Val Tyr Leu Ala Ser Pro Phe Val Asn  
20 25 30

Val Asn Ser Glu Phe Trp Asn Val Asp Glu Asn His Phe Tyr Phe Trp  
35 40 45

Ile Ser Arg Ser Phe Leu Ile Ile Phe Ile Ile Tyr Phe Phe Lys Leu  
50 55 60

Thr Ser Ser Tyr Asp Asp Phe Arg Val Glu Phe Phe Ile Pro Lys Phe  
65 70 75 80

Lys Phe Ile Phe Leu Trp Asp Ser Val Leu Ile Phe Ile Lys Thr Ile  
85 90 95

Leu Ile Ala Met Ile Val Ile Phe Leu Ile Ala Phe Leu Leu Glu Tyr  
100 105 110

Leu Leu Pro Glu Ser Val Leu Val Tyr Tyr Phe Gln Asn Asn Ala Gly  
115 120 125

Phe Asn Trp Lys Ile Ser Ser Lys Lys Ala Phe Phe Leu Met Thr Phe  
130 135 140

Thr Ser Phe Phe Thr Gly Ala Phe Glu Glu Leu Phe Tyr Arg Ala Phe  
145 150 155 160

Val Ile Thr Lys Phe Thr Gln Met Gly Phe Pro Val Val Ala Thr Ala  
165 170 175

Ile Leu Ser Ser Met Phe Phe Ala Tyr Gly His Leu Tyr Tyr Gly Ile  
180 185 190

Leu Gly Phe Leu Val Thr Phe Ile Leu Gly Ile Phe Phe Ala Phe Thr  
195 200 205

Tyr Leu Arg Tyr Lys Asn Val Tyr Tyr Val Ile Phe Ile His Ser Phe  
210 215 220

Tyr Asn Ile Ile Val Ser Ser Leu Leu Leu Phe Leu Asn  
225 230 235

<210> 305

<211> 204

<212> PRT

<213> Homo sapiens

&lt;400&gt; 305

Asn Ser Glu Phe Trp Asn Val Asp Glu Asn His Phe Tyr Phe Trp Ile  
 1 5 10 15  
 Ser Arg Ser Phe Leu Ile Ile Phe Ile Ile Tyr Phe Phe Lys Leu Thr  
 20 25 30  
 Ser Ser Tyr Asp Asp Phe Arg Val Glu Phe Phe Ile Pro Lys Phe Lys  
 35 40 45  
 Phe Ile Phe Leu Trp Asp Ser Val Leu Ile Phe Ile Lys Thr Ile Leu  
 50 55 60  
 Ile Ala Met Ile Val Ile Phe Leu Ile Ala Phe Leu Leu Glu Tyr Leu  
 65 70 75 80  
 Leu Pro Glu Ser Val Leu Val Tyr Tyr Phe Gln Asn Asn Ala Gly Phe  
 85 90 95  
 Asn Trp Lys Ile Ser Ser Lys Lys Ala Phe Phe Leu Met Thr Phe Thr  
 100 105 110  
 Ser Phe Phe Thr Gly Ala Phe Glu Glu Leu Phe Tyr Arg Ala Phe Val  
 115 120 125  
 Ile Thr Lys Phe Thr Gln Met Gly Phe Pro Val Val Ala Thr Ala Ile  
 130 135 140  
 Leu Ser Ser Met Phe Phe Ala Tyr Gly His Leu Tyr Tyr Gly Ile Leu  
 145 150 155 160  
 Gly Phe Leu Val Thr Phe Ile Leu Gly Ile Phe Phe Ala Phe Thr Tyr  
 165 170 175  
 Leu Arg Tyr Lys Asn Val Tyr Tyr Val Ile Phe Ile His Ser Phe Tyr  
 180 185 190  
 Asn Ile Ile Val Ser Ser Leu Leu Leu Phe Leu Asn  
 195 200

&lt;210&gt; 306

&lt;211&gt; 714

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 306

atgcaattgt taaaaaataa atatccattc aagcgggctt tgcttgatct ttttttggtc 60  
 tatgctattg tttatttggc atctcctttt gtaaagtgtta attcagaatt ttggaatggt 120  
 gatgaaaatc atttttatct ttggatttca agatcttttt taattatctt tataatctat 180  
 ttttttaaac ttaccagttc ttatgatgat tttagagtag agttttttat tcctaaattt 240  
 aaatttatct ttctttggga ttctgtttta atttttatta aaacaatatt gattgcaatg 300  
 atagtcattt ttttaatagc ttttttgctt gaatatttgt tgccagaatc ggtacttgct 360  
 tattattttc aaaacaatgc tggatttaat tggaagatta gcagtaaaaa agcatttttt 420  
 ttaatgactt ttacctcttt ttttacagga gcttttgaag aactttttta cagggctttt 480  
 gttattacta agtttacaca aatgggattt cctgtttag ctaccgccat tcttagtagt 540  
 atgttttttg cttatgggca tttatattat ggaatttttag gatttttggt tacatttata 600  
 ttagggatat tttttgcttt tacttattta aggtataaaa atgtatatta tgtgattttt 660

atacatagtt tttataatat tattgttagc agcttggtgc tttttttgaa ttaa 714

<210> 307

<211> 615

<212> DNA

<213> Homo sapiens

<400> 307

aattcagaat tttggaatgt tgatgaaaaat cattttttatt tttggatttc aagatctttt 60  
 ttaattattt ttataattta tttttttaaa cttaccagtt cttatgatga ttttagagta 120  
 gagtttttta ttcctaaatt taaattttatt tttctttggg attctgtttt aattttttatt 180  
 aaaacaatat tgattgcaat gatagtcatt tttttaatag ctttttttgc tgaatatttg 240  
 ttgccagaat cgggtactgt ctattatttt caaaacaatg ctggatttaa ttggaagatt 300  
 agcagtaaaa aagcattttt tttaatgact tttacctctt tttttacagg agcttttgaa 360  
 gaactttttt acagggcttt tgttattact aagttttacac aaatgggatt tcctgttgta 420  
 gctaccgcca ttccttagtag tatgtttttt gcttatgggc atttatatta tggaatttta 480  
 ggattttttg ttacattttat attagggata ttttttgctt ttacttattt aaggtataaa 540  
 aatgtatatt atgtgatttt tatacatagt ttttataata ttattggttag cagcttggtg 600  
 ctttttttga attaa 615

<210> 308

<211> 181

<212> PRT

<213> Homo sapiens

<400> 308

Met Lys Lys Tyr Leu Phe Phe Ile Leu Phe Leu Ile Ser Ser Asn Asn  
 1 5 10 15

Leu Ile Val Ser Tyr Pro Leu Ser Phe Gly Gly Gly Phe Ser Tyr Gln  
 20 25 30

Phe Thr Asn Tyr Thr Asp Lys Thr Gly Ala Thr Lys Phe Ala Pro Asn  
 35 40 45

Phe Thr Arg Ala Asp His Gly Ile Asn Leu Asn Leu Phe Phe Asp Ala  
 50 55 60

Asn Tyr Val Leu Phe Glu Met Ser Tyr Lys Glu Ala Phe Val Val Thr  
 65 70 75 80

His Asn Gly Arg Tyr Phe Ser Leu Gly Leu Tyr Gly Thr Tyr Pro Met  
 85 90 95

Val Phe Lys Glu Gln Val Arg Met Leu Phe Pro Leu Ile Gly Phe Lys  
 100 105 110

Tyr Ala Phe Asp Leu Ser Ser Asn Asn Phe Asn Leu Phe Phe Leu Ser  
 115 120 125

Met Gly Leu Ala Ala Asp Leu Phe Ile Pro Asp Leu Asp Gly Leu Tyr  
 130 135 140

Ile Arg Pro Leu Phe Met Leu Ser Ile Ser Pro Phe Ser Asn Tyr Lys  
 145 150 155 160

Asn Phe Ser Gly Leu Thr Thr Glu Ile Met Leu Gly Phe Asn Ile Gly  
 165 170 175

Trp Arg Phe Phe Asn  
180

<210> 309  
<211> 164  
<212> PRT  
<213> Homo sapiens

<400> 309  
Ile Val Ser Tyr Pro Leu Ser Phe Gly Gly Gly Phe Ser Tyr Gln Phe  
1 5 10 15

Thr Asn Tyr Thr Asp Lys Thr Gly Ala Thr Lys Phe Ala Pro Asn Phe  
20 25 30

Thr Arg Ala Asp His Gly Ile Asn Leu Asn Leu Phe Phe Asp Ala Asn  
35 40 45

Tyr Val Leu Phe Glu Met Ser Tyr Lys Glu Ala Phe Val Val Thr His  
50 55 60

Asn Gly Arg Tyr Phe Ser Leu Gly Leu Tyr Gly Thr Tyr Pro Met Val  
65 70 75 80

Phe Lys Glu Gln Val Arg Met Leu Phe Pro Leu Ile Gly Phe Lys Tyr  
85 90 95

Ala Phe Asp Leu Ser Ser Asn Asn Phe Asn Leu Phe Phe Leu Ser Met  
100 105 110

Gly Leu Ala Ala Asp Leu Phe Ile Pro Asp Leu Asp Gly Leu Tyr Ile  
115 120 125

Arg Pro Leu Phe Met Leu Ser Ile Ser Pro Phe Ser Asn Tyr Lys Asn  
130 135 140

Phe Ser Gly Leu Thr Thr Glu Ile Met Leu Gly Phe Asn Ile Gly Trp  
145 150 155 160

Arg Phe Phe Asn

<210> 310  
<211> 546  
<212> DNA  
<213> Homo sapiens

<400> 310  
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tatccacttt cttttggtgg aggtttttct tatcaattta ctaattatac tgataaaaaca 120  
ggcgccacta aatttgctcc aaattttacc agagcagatc atgggattaa tttgaattta 180  
ttttttgatg caaattatgt actttttgaa atgtcttaca aagaggcttt tgttggtact 240  
cacaatggga gatatttctc gcttgggctt tatggaacat atccaatggg tttcaaagag 300  
caggttagaa tgcttttccc attaattggg tttaaatatg cttttgattt aagctctaata 360  
aacttcaatc tctttttttt aagcatgggg cttgctgctg atctttttat tcccgatctt 420  
gatggtttat atattaggcc tttgtttatg ctttctattt ctccattttc taattataaa 480  
aatttttctg ggtaacaac tgagattatg cttggattta atatcggttg gagatttttc 540



aattag

546

&lt;210&gt; 311

&lt;211&gt; 495

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 311

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attgtttctt atccactttc ttttggtgga ggtttttctt atcaatttac taattatact 60
gataaaacag gcgccactaa atttgctcca aattttacca gagcagatca tgggattaat 120
ttgaatttat tttttgatgc aaattatgta ctttttgaaa tgtcttaca agaggctttt 180
gttggttactc acaatgggag atatttctcg cttgggcttt atggaacata tccaatggtt 240
ttcaaagagc aggttagaat gcttttccca ttaattgggt ttaaataatgc ttttgattta 300
agctctaata acttcaatct ctttttttta agcatggggc ttgctgctga tctttttatt 360
cccgatcttg atggtttata tattaggcct ttgtttatgc tttctatttc tccattttct 420
aattataaaa atttttctgg gttacaact gagattatgc ttggatttaa tatcggttgg 480
agatttttca attag

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&lt;210&gt; 312

&lt;211&gt; 349

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 312

```

Met Lys Gln Lys Tyr Glu Asn Tyr Phe Lys Lys Arg Leu Ile Leu Asn
  1             5             10             15

```

```

Leu Leu Ile Phe Leu Leu Leu Ala Cys Ser Ser Glu Ser Ile Phe Ser
      20             25             30

```

```

Gln Leu Gly Asn Leu Gln Lys Ile Lys His Glu Tyr Asn Ile Leu Gly
      35             40             45

```

```

Ser Ser Ser Pro Arg Gly Ile Ser Leu Val Gly Glu Thr Leu Tyr Ile
      50             55             60

```

```

Ala Ala Met His Leu Phe Lys Lys Glu Asn Gly Lys Ile Glu Lys Ile
      65             70             75             80

```

```

Asp Leu Ser Asn Ser Tyr Glu Phe Ile Asn Asp Ile Val Asn Ile Ser
      85             90             95

```

```

Gly Lys Thr Tyr Leu Leu Ala Gln Asn Lys Glu Glu Glu Leu Glu Val
      100            105            110

```

```

Cys Glu Leu Asn Gly Lys Asp Trp Thr Leu Lys Phe Lys Lys Pro Leu
      115            120            125

```

```

Lys Ala Tyr Lys Phe Leu Lys Ser Val Gly Arg Asp Gly Val Lys Glu
      130            135            140

```

```

Ala Tyr Ile Leu Ala Ile Asp Lys Asn Asn Arg Glu Lys Ile Phe Asp
      145            150            155            160

```

```

Leu Gln Gly Ser Asp Lys Thr Pro Pro Gln Ala Thr Glu Asn Asp Lys
      165            170            175

```

```

Phe Tyr Gln Ile Ser Asn Glu Glu Asn Leu Ile Thr Gly Asn Ser Leu

```

180										185										190									
Lys	Ile	Trp	Gln	Met	Asn	Asn	Asn	Thr	Tyr	Thr	Asn	Ile	Asp	Tyr	Gln														
		195					200					205																	
Gln	Ala	Lys	Glu	Ile	Met	Pro	Ile	Ile	Lys	Thr	Ser	Ile	Arg	Gly	Ser														
		210				215						220																	
Ser	Glu	Val	Leu	Val	Met	Thr	Gly	Gly	Tyr	Asn	Asn	Leu	Asp	Thr	Lys														
					230					235					240														
Phe	Lys	Val	Tyr	Ser	Asn	Thr	Asn	Asn	Tyr	Thr	Thr	Pro	Ile	Phe	Ile														
				245					250					255															
Gln	Asp	Glu	Val	Gly	Glu	Phe	Ser	Ser	Tyr	Phe	Ala	Arg	Glu	Phe	Asn														
			260					265					270																
Asp	Ala	Ile	Leu	Ile	Gly	Ser	Asn	Asn	Gly	Phe	Ala	Glu	Phe	Thr	Lys														
		275					280					285																	
Asn	Lys	Glu	Gly	Ile	Phe	Ala	Leu	Arg	Ala	Pro	Ser	Lys	Ser	Val	Glu														
		290				295					300																		
Pro	Gly	Ala	Tyr	Asn	Gly	Ser	Gln	Leu	Ser	Lys	Thr	Gly	Leu	Asn	Asp														
				310						315				320															
Ile	Ile	Pro	Val	Ser	Asn	Asn	Thr	Ile	Tyr	Ile	Leu	Thr	Gln	Gly	Lys														
				325					330					335															
Gly	Leu	Trp	Lys	Leu	Glu	Asn	Arg	Lys	Leu	Thr	Lys	Glu																	
			340					345																					
<210> 313																													
<211> 325																													
<212> PRT																													
<213> Homo sapiens																													
<400> 313																													
Cys	Ser	Ser	Glu	Ser	Ile	Phe	Ser	Gln	Leu	Gly	Asn	Leu	Gln	Lys	Ile														
1				5					10					15															
Lys	His	Glu	Tyr	Asn	Ile	Leu	Gly	Ser	Ser	Ser	Pro	Arg	Gly	Ile	Ser														
			20					25					30																
Leu	Val	Gly	Glu	Thr	Leu	Tyr	Ile	Ala	Ala	Met	His	Leu	Phe	Lys	Lys														
			35				40																						

Val Gly Arg Asp Gly Val Lys Glu Ala Tyr Ile Leu Ala Ile Asp Lys  
 115 120 125

Asn Asn Arg Glu Lys Ile Phe Asp Leu Gln Gly Ser Asp Lys Thr Pro  
 130 135 140

Pro Gln Ala Thr Glu Asn Asp Lys Phe Tyr Gln Ile Ser Asn Glu Glu  
 145 150 155 160

Asn Leu Ile Thr Gly Asn Ser Leu Lys Ile Trp Gln Met Asn Asn Asn  
 165 170 175

Thr Tyr Thr Asn Ile Asp Tyr Gln Gln Ala Lys Glu Ile Met Pro Ile  
 180 185 190

Ile Lys Thr Ser Ile Arg Gly Ser Ser Glu Val Leu Val Met Thr Gly  
 195 200 205

Gly Tyr Asn Asn Leu Asp Thr Lys Phe Lys Val Tyr Ser Asn Thr Asn  
 210 215 220

Asn Tyr Thr Thr Pro Ile Phe Ile Gln Asp Glu Val Gly Glu Phe Ser  
 225 230 235 240

Ser Tyr Phe Ala Arg Glu Phe Asn Asp Ala Ile Leu Ile Gly Ser Asn  
 245 250 255

Asn Gly Phe Ala Glu Phe Thr Lys Asn Lys Glu Gly Ile Phe Ala Leu  
 260 265 270

Arg Ala Pro Ser Lys Ser Val Glu Pro Gly Ala Tyr Asn Gly Ser Gln  
 275 280 285

Leu Ser Lys Thr Gly Leu Asn Asp Ile Ile Pro Val Ser Asn Asn Thr  
 290 295 300

Ile Tyr Ile Leu Thr Gln Gly Lys Gly Leu Trp Lys Leu Glu Asn Arg  
 305 310 315 320

Lys Leu Thr Lys Glu  
 325

&lt;210&gt; 314

&lt;211&gt; 1050

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 314

atgaaacaaa aatacgaaaa ctatttttaaa aaaagattaa ttttaaacct attaatatatt 60  
 ttactactag catgctcaag cgaatccata ttttcacaaat taggaaatct gcaaaaaata 120  
 aaacatgaat acaatatattt gggcagttca agtccaagag gaattttctct agtaggagaa 180  
 actctctaca ttgcagccat gcattttattt aaaaaagaaa acggcaagat tgaaaaaatt 240  
 gatttgagca attcttatga gttttataaac gacattgtaa atatatctgg aaaaacctat 300  
 ctttttagcgc aaaacaaaga agaagaatta gaagtttgcg agctaaatgg aaaagattgg 360  
 acattaaaat ttaaaaaacc gctaaaagca tataaattct taaaatccgt aggaagagat 420  
 ggcgtaaaag aagcatatat tttagctata gataaaaata atcgtgagaa aatttttgat 480  
 ctacaaggat ctgacaaaac accaccacaa gctactgaaa atgacaaatt ttatcaaata 540

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tcaaatagaag aaaacttaat tacaggaaat tcactcaaaa tatggcaaata gaataacaat 600
acatacacaa acatagacta tcaacaggcc aaagaaataa tgcctatcat taaaacaagc 660
attaggggct cttctgaagt tttagtaatg actggtgggtt acaataattt agatacaaaa 720
tttaaagttt actcaaatac aaataattac acaacgccaa tttttattca agacgaagta 780
ggcgaattta gcagctactt tgcaagagaa tttaatgatg cgatattaat cggaagtaat 840
aatggatttg cagaattttac aaaaaataaa gaagggaattt ttgccctacg ggcaccctca 900
aaatctgtag aacctggagc ttataacgga tctcagctaa gcaaaacagg ccttaatatg 960
attattcctg tatcaaaca caccgatttac atattaactc agggcaaggg tttgtggaaa 1020
ttggaaaaca gaaaattaac taaagaataa 1050

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&lt;210&gt; 315

&lt;211&gt; 978

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 315

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tgctcaagcg aatccatatt ttcacaatta ggaaatctgc aaaaaataaa acatgaatac 60
aatatttttg gcagttcaag tocaagagga atttctctag taggagaaac tctctacatt 120
gcagccatgc atttatttaa aaaagaaaac ggcaagattg aaaaaattga tttgagcaat 180
tcttatgagt ttataaacga cattgtaaat atatctggaa aaacctatct tttagcgcaa 240
aacaagaag aagaattaga agtttgcgag ctaaattggaa aagattggac attaaaaatt 300
aaaaaacgc taaaagcata taaattctta aaatccgtag gaagagatgg cgtaaaagaa 360
gcataatatt tagctataga taaaaataat cgtgagaaaa tttttgatct acaaggatct 420
gacaaaacac caccacaagc tactgaaaat gacaaaattt atcaaatatc aaatgaagaa 480
aacttaatta caggaaattc actcaaaata tggcaaatga ataacaatac atacacaaac 540
atagactatc aacaggccaa agaaataatg cctatcatta aaacaagcat taggggctct 600
tctgaagttt tagtaatgac tgggtggttac aataatttag atacaaaatt taaagtttac 660
tcaaatacaa ataattacac aacgccaaata tttattcaag acgaagtagg cgaatttagc 720
agctactttg caagagaatt taatgatgag atattaatcg gaagtaataa tggatttgca 780
gaattttacaa aaaataaaga aggaattttt gccctacggg caccctcaaa atctgtagaa 840
cctggagctt ataacggatc tcagctaagc aaaacaggcc ttaatgatat tattcctgta 900
tcaaacaaca cgattttacat attaaactcg ggcaagggtt tgtggaaatt ggaaaacaga 960
aaattaacta aagaataa 978

```

&lt;210&gt; 316

&lt;211&gt; 217

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 316

```

Met Gln Ser Gly Leu Lys Ile Lys Leu Ile Leu Phe Phe Cys Cys Phe
1           5           10           15

```

```

Ala Cys Ser Cys Asp Ile Asn Tyr Pro Glu Ile Lys Glu Leu Asp Tyr
20           25           30

```

```

Lys Ile Asn Tyr Tyr Phe Thr Glu Asn Arg Leu Asp Tyr Ser Met Ser
35           40           45

```

```

Phe Asp Phe Ala Ile Lys Val Ile Asn Ser Lys Asp Val Phe Lys Leu
50           55           60

```

```

Ser Ile Glu Asn Lys Asn Thr Asn Glu Phe Ile Gln Val Ile Asn Asn
65           70           75           80

```

```

Asn Tyr Ser Ser Phe Phe Ile Asp Ser Ser Leu Gly Lys Asp Ile Leu
85           90           95

```

Tyr Cys Lys Asp Leu Arg Phe Asn Phe Phe Asp Lys Thr Phe Glu Asp  
 100 105 110  
 Phe Thr Ser Cys Val Arg Leu Phe Asp Lys Gly Met Arg Val Tyr Asn  
 115 120 125  
 Arg Glu Leu Val Ile Ser Leu Gly Met Ser Lys Tyr Asp Leu Asp Asp  
 130 135 140  
 Val His Asn Tyr Val Tyr Lys Ser Lys Asp Met Glu Met Leu Asn Lys  
 145 150 155 160  
 Leu Ser Asn Ser Lys Val Phe Phe Val Lys Thr Tyr Lys Asp Lys Leu  
 165 170 175  
 His Pro Val Ser Ser Val Val Arg Ile Asp Ser Ile Asp Ile Leu Glu  
 180 185 190  
 Ile Asp Lys Ala Phe Asp Asn Tyr Ile Ser Phe Tyr Tyr Val Glu Lys  
 195 200 205  
 Asn Ser Asn Leu Phe Phe Lys Val Gly  
 210 215  
 <210> 317  
 <211> 204  
 <212> PRT  
 <213> Homo sapiens  
 <400> 317  
 Cys Cys Phe Ala Cys Ser Cys Asp Ile Asn Tyr Pro Glu Ile Lys Glu  
 1 5 10 15  
 Leu Asp Tyr Lys Ile Asn Tyr Tyr Phe Thr Glu Asn Arg Leu Asp Tyr  
 20 25 30  
 Ser Met Ser Phe Asp Phe Ala Ile Lys Val Ile Asn Ser Lys Asp Val  
 35 40 45  
 Phe Lys Leu Ser Ile Glu Asn Lys Asn Thr Asn Glu Phe Ile Gln Val  
 50 55 60  
 Ile Asn Asn Asn Tyr Ser Ser Phe Phe Ile Asp Ser Ser Leu Gly Lys  
 65 70 75 80  
 Asp Ile Leu Tyr Cys Lys Asp Leu Arg Phe Asn Phe Phe Asp Lys Thr  
 85 90 95  
 Phe Glu Asp Phe Thr Ser Cys Val Arg Leu Phe Asp Lys Gly Met Arg  
 100 105 110  
 Val Tyr Asn Arg Glu Leu Val Ile Ser Leu Gly Met Ser Lys Tyr Asp  
 115 120 125  
 Leu Asp Asp Val His Asn Tyr Val Tyr Lys Ser Lys Asp Met Glu Met  
 130 135 140  
 Leu Asn Lys Leu Ser Asn Ser Lys Val Phe Phe Val Lys Thr Tyr Lys

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<210> 318
<211> 654
<212> DNA
<213> Homo sapiens
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<400>	318						
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aatcgctttag	attactctat	gagttttgat	tttgc aatta	aagttataaa	ttcaaaagat	180	
gttttttaaat	tatcaataga	gaataagaac	actaatgagt	ttattcaagt	gattaataat	240	
aatttatagct	ctttttttat	tgattctagc	cttggaagg	atattctata	ttgtaaggat	300	
ttgagggttta	atttttttga	taaaactttt	gaagatttta	cctcatgtgt	tcgtcttttt	360	
gataagggca	tgagagtata	caatagagag	cttgttattt	ctttgggtat	gtcaaaatat	420	
gatttagatg	atgttcacaa	ttatgtatat	aagtctaaag	atatggaaat	gttaaacaag	480	
ttaagcaatt	ccaaagtatt	ttttgttaaa	acttataaaag	acaaactaca	tccggctctc	540	
tcagttgtta	gaattgattc	aatagatatt	ctagagattg	ataaagcatt	tgaataattac	600	
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<211> 615
<212> DNA
<213> Homo sapiens
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aaagttataa	attcaaáaga	tgttttttaa	ttatcaatag	agaataagaa	cactaatgag	180	
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gacattctat	atttgaagga	tttgagggtt	aatttttttg	ataaaacttt	tgaagatttt	300	
acctcatgtg	ttcgtctttt	tgataagggc	atgagagtat	acaatagaga	gcttggtatt	360	
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<210> 320
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<212> PRT
<213> Homo sapiens
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<220>  
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<222> (573)  
<223> Xaa equals any of the naturally occurring L-amino acids  
  
<220>
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<221> SITE

<222> (627)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (735)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 320

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Lys Leu Asn Asp Lys Asn Arg Glu Ile Met Leu Asn Glu Val Lys Asn  
35 40 45

Ser Val Ile Asp Arg Asn Tyr Lys Lys Ala Tyr Ser Val Ala Lys Leu  
50 55 60

Leu Gln Asp Lys Tyr Pro Gln Asn Glu Asp Ile Ala Met Leu Thr Asn  
65 70 75 80

Thr Leu Ala Glu Ile Ala Asn Ser Ser Pro Phe Glu Ser Lys Asp Leu  
85 90 95

Gln Arg Asp Ser Ala Asn Gln Ile Leu Asp Lys Ile Lys Gly Gln Asp  
100 105 110

Asn Thr Lys Thr Asn Val Asn Glu Asn Phe Asp Ile Ala Phe Asn Asn  
115 120 125

Arg Tyr Ile Lys Asp Ser Thr Ile Thr Glu Asn Tyr Ser Asp Arg Asn  
130 135 140

Asp Asp Val Gly Ile Glu Asp Glu Asp Ile Ser Glu Phe Lys Lys Ser  
145 150 155 160

Lys Ile Pro Glu Lys Ile Lys Pro Asn Thr Asn Pro Lys Glu Glu Asp  
165 170 175

Gln Ile Ile Gln Ser Pro Asn Pro Lys Leu Ser Val Asn Asp Gln Lys  
180 185 190

Asn Leu Phe Asn Leu Glu Lys Leu Lys Lys Asn Leu Ser Gly Lys Ser  
195 200 205

Asn Ser Glu Asn Ile Leu Asn Asp Ser Gln Lys Ile Glu Asn Asp Lys  
210 215 220

Gln Asn Thr Asn Leu Ser Lys Glu Lys Asn Ser Glu Asn Ile Leu Lys  
225 230 235 240

Thr Pro Asp Asn Ser Lys Tyr Ser Asn Asn Asn Thr Thr Ser Leu  
245 250 255

Lys Lys Ile Ser Ser Asn Ser Gln Lys Glu Ser Glu Leu Ser Pro Pro  
 260 265 270  
 Ser Gln Thr Ile Ile Gly Lys Ile Tyr Arg Pro Tyr Ser Tyr Leu Ile  
 275 280 285  
 Lys Lys Glu Leu Tyr Glu Ile Leu Asp Asp Ile Asn Thr Gly Arg Val  
 290 295 300  
 Thr Leu Gly Lys Asn Arg Leu Lys Glu Leu Ile Lys Lys Gly Leu Ser  
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 Asn Lys Phe Gln Lys Val Asn Glu Leu Ile Glu Asn Ser Lys Asn Lys  
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 Lys Val His Ser Ile Lys Pro Ile Asp Leu Glu Asn Thr Lys Ser Arg  
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 Leu Lys Asn Asn Pro Asn Asp Ala Gln Ala Ser Lys Thr Leu Ala Gln  
 465 470 475 480  
 Ala Asn Lys Ile Gln His Leu Glu Asp Leu Lys Ser Lys Val His Ser  
 485 490 495  
 Ile Lys Pro Ile Asp Leu Glu Asn Thr Lys Ser Arg Gln Gln Ala Ile  
 500 505 510  
 Lys Asp Leu Asn Glu Phe Leu Lys Asn Asn Pro Asn Asp Ala Gln Ala  
 515 520 525  
 Ser Lys Thr Leu Ala Gln Ala Asn Lys Ile Gln His Leu Glu Asp Leu  
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 Lys Ser Lys Val His Ser Ile Lys Pro Ile Asp Leu Glu Asn Thr Lys  
 545 550 555 560  
 Ser Arg Gln Gln Ala Ile Lys Asp Leu Asn Glu Phe Xaa Lys Asn Asn



	565		570		575
Pro Asn Asp	Ala Gln Ala Ser Lys Thr	Leu Ala Gln Ala Asn Lys Ile			
	580	585		590	
Gln His Leu Glu Asp Leu Lys Ser Lys Val His Ser Ile Lys Pro Ile					
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Asp Leu Glu Asn Thr Lys Ser Arg Gln Gln Ala Ile Lys Asp Leu Asn					
	610	615		620	
Glu Phe Xaa Lys Asn Asn Pro Asn Asp Ala Gln Ala Ser Lys Thr Leu					
	625	630		635	640
Ala Gln Ala Asn Lys Ile Gln His Leu Glu Asp Leu Lys Ser Lys Val					
	645	650		655	
His Ser Ile Lys Pro Ile Asp Leu Glu Asn Thr Lys Ser Arg Gln Gln					
	660	665		670	
Ala Ile Lys Asp Leu Asn Glu Phe Leu Lys Asn Asn Pro Asn Asp Ala					
	675	680		685	
Gln Ala Ser Lys Thr Leu Ala Gln Ala Asn Lys Ile Gln His Leu Glu					
	690	695		700	
Asp Leu Lys Ser Lys Val His Ser Ile Lys Pro Ile Asp Leu Glu Asn					
	705	710		715	720
Thr Lys Ser Arg Gln Gln Ala Ile Lys Asp Leu Asn Glu Phe Xaa Lys					
	725	730		735	
Asn Asn Pro Asn Asp Ala Gln Ala Ser Lys Thr Leu Ala Gln Ala Tyr					
	740	745		750	
Glu Asn Asn Gly Asp Leu Leu Lys Ala Glu Asn Ala Tyr Glu Lys Ile					
	755	760		765	
Ile Lys Leu Thr Asn Thr Gln Glu Asp His Tyr Lys Leu Gly Ile Ile					
	770	775		780	
Arg Phe Lys Leu Lys Lys Tyr Glu His Ser Ile Glu Ser Phe Asp Gln					
	785	790		795	800
Thr Ile Lys Leu Asp Pro Lys His Lys Lys Ala Leu His Asn Lys Gly					
	805	810		815	
Ile Ala Leu Met Met Leu Asn Lys Asn Lys Lys Ala Ile Glu Ser Phe					
	820	825		830	
Glu Lys Ala Ile Gln Ile Asp Lys Asn Tyr Gly Thr Ala Tyr Tyr Gln					
	835	840		845	
Lys Gly Ile Ala Glu Glu Lys Asn Gly Asp Met Gln Gln Ala Phe Ala					
	850	855		860	
Ser Phe Lys Asn Ala Tyr Asn Leu Asp Lys Asn Pro Asn Tyr Ala Leu					
	865	870		875	880

Lys Ala Gly Ile Val Ser Asn Asn Leu Gly Asn Phe Lys Gln Ser Glu  
 885 890 895  
 Glu Tyr Leu Asn Phe Phe Asn Ala Asn Ala Lys Lys Pro Asn Glu Ile  
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 Ala Ile Tyr Asn Leu Ser Ile Ala Lys Phe Glu Asn Asn Lys Leu Glu  
 915 920 925  
 Glu Ser Leu Glu Thr Ile Asn Lys Ala Ile Asp Leu Asn Pro Glu Lys  
 930 935 940  
 Ser Glu Tyr Leu Tyr Leu Lys Ala Ser Ile Asn Leu Lys Lys Glu Asn  
 945 950 955 960  
 Tyr Gln Asn Ala Ile Ser Leu Tyr Ser Leu Val Ile Glu Lys Asn Pro  
 965 970 975  
 Glu Asn Thr Ser Ala Tyr Ile Asn Leu Ala Lys Ala Tyr Glu Lys Ser  
 980 985 990  
 Gly Asn Lys Ser Gln Ala Ile Ser Thr Leu Glu Lys Ile Ile Asn Lys  
 995 1000 1005  
 Asn Asn Lys Leu Ala Leu Asn Asn Leu Gly Ile Leu Tyr Lys Lys Glu  
 1010 1015 1020  
 Lys Asn Tyr Gln Lys Ala Ile Glu Ile Phe Glu Lys Ala Ile Ile Asn  
 025 1030 1035 1040  
 Ser Asp Ile Glu Ala Lys Tyr Asn Leu Ala Thr Thr Leu Ile Glu Ile  
 1045 1050 1055  
 Asn Asp Asn Thr Arg Ala Lys Asp Leu Leu Arg Glu Tyr Thr Lys Leu  
 1060 1065 1070  
 Lys Pro Asn Asn Pro Glu Ala Leu His Ala Leu Gly Ile Ile Glu Tyr  
 1075 1080 1085  
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<210> 321

<211> 1087

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (541)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

&lt;222&gt; (595)

&lt;223&gt; Xaa equals any of the naturally occurring L-amino acids

&lt;220&gt;

&lt;221&gt; SITE

&lt;222&gt; (703)

&lt;223&gt; Xaa equals any of the naturally occurring L-amino acids

&lt;400&gt; 321

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Leu Gln Asp Lys Tyr Pro Gln Asn Glu Asp Ile Ala Met Leu Thr Asn  
 35 40 45

Thr Leu Ala Glu Ile Ala Asn Ser Ser Pro Phe Glu Ser Lys Asp Leu  
 50 55 60

Gln Arg Asp Ser Ala Asn Gln Ile Leu Asp Lys Ile Lys Gly Gln Asp  
 65 70 75 80

Asn Thr Lys Thr Asn Val Asn Glu Asn Phe Asp Ile Ala Phe Asn Asn  
 85 90 95

Arg Tyr Ile Lys Asp Ser Thr Ile Thr Glu Asn Tyr Ser Asp Arg Asn  
 100 105 110

Asp Asp Val Gly Ile Glu Asp Glu Asp Ile Ser Glu Phe Lys Lys Ser  
 115 120 125

Lys Ile Pro Glu Lys Ile Lys Pro Asn Thr Asn Pro Lys Glu Glu Asp  
 130 135 140

Gln Ile Ile Gln Ser Pro Asn Pro Lys Leu Ser Val Asn Asp Gln Lys  
 145 150 155 160

Asn Leu Phe Asn Leu Glu Lys Leu Lys Lys Asn Leu Ser Gly Lys Ser  
 165 170 175

Asn Ser Glu Asn Ile Leu Asn Asp Ser Gln Lys Ile Glu Asn Asp Lys  
 180 185 190

Gln Asn Thr Asn Leu Ser Lys Glu Lys Asn Ser Glu Asn Ile Leu Lys  
 195 200 205

Thr Pro Asp Asn Ser Lys Tyr Ser Asn Asn Asn Asn Thr Thr Ser Leu  
 210 215 220

Lys Lys Ile Ser Ser Asn Ser Gln Lys Glu Ser Glu Leu Ser Pro Pro  
 225 230 235 240

Ser Gln Thr Ile Ile Gly Lys Ile Tyr Arg Pro Tyr Ser Tyr Leu Ile  
 245 250 255

Lys Lys Glu Leu Tyr Glu Ile Leu Asp Asp Ile Asn Thr Gly Arg Val

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Thr	Leu	Gly	Lys	Asn	Arg	Leu	Lys	Glu	Leu	Ile	Lys	Lys	Gly	Leu	Ser
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Asn	Lys	Phe	Gln	Lys	Val	Asn	Glu	Leu	Ile	Glu	Asn	Ser	Lys	Asn	Lys
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Glu	Ala	Ser	Asn	Leu	Leu	Leu	Thr	Leu	Ile	Lys	Lys	Asp	Ile	Glu	Pro
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Asn	Leu	Ile	Asn	Ile	Pro	Lys	Asp	Pro	Tyr	Lys	Lys	Glu	Ile	Phe	Gln
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Leu	Asp	Lys	Glu	Asp	Lys	Lys	Pro	Gln	Tyr	Leu	Glu	Asp	Leu	Lys	Ser
	340						345						350		
Lys	Val	His	Ser	Ile	Lys	Pro	Ile	Asp	Leu	Glu	Asn	Thr	Lys	Ser	Arg
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Gln	Gln	Ala	Ile	Lys	Asp	Leu	Asn	Glu	Phe	Leu	Lys	Asn	Asn	Pro	Asn
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Asp	Ala	Gln	Ala	Ser	Lys	Thr	Leu	Ala	Gln	Ala	Asn	Lys	Ile	Gln	His
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Leu	Glu	Asp	Leu	Lys	Ser	Lys	Val	His	Ser	Ile	Lys	Pro	Ile	Asp	Leu
			405					410						415	
Glu	Asn	Thr	Lys	Ser	Arg	Gln	Gln	Ala	Ile	Lys	Asp	Leu	Asn	Glu	Phe
	420						425						430		
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Ile	Lys	Pro	Ile	Asp	Leu	Glu	Asn	Thr	Lys	Ser	Arg	Gln	Gln	Ala	Ile
465				470					475					480	
Lys	Asp	Leu	Asn	Glu	Phe	Leu	Lys	Asn	Asn	Pro	Asn	Asp	Ala	Gln	Ala
			485					490						495	
Ser	Lys	Thr	Leu	Ala	Gln	Ala	Asn	Lys	Ile	Gln	His	Leu	Glu	Asp	Leu
	500						505						510		
Lys	Ser	Lys	Val	His	Ser	Ile	Lys	Pro	Ile	Asp	Leu	Glu	Asn	Thr	Lys
	515						520					525			
Ser	Arg	Gln	Gln	Ala	Ile	Lys	Asp	Leu	Asn	Glu	Phe	Xaa	Lys	Asn	Asn
	530					535					540				
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545				550					555					560	
Gln	His	Leu	Glu	Asp	Leu	Lys	Ser	Lys	Val	His	Ser	Ile	Lys	Pro	Ile
			565						570					575	

Asp Leu Glu Asn Thr Lys Ser Arg Gln Gln Ala Ile Lys Asp Leu Asn  
 580 585 590  
 Glu Phe Xaa Lys Asn Asn Pro Asn Asp Ala Gln Ala Ser Lys Thr Leu  
 595 600 605  
 Ala Gln Ala Asn Lys Ile Gln His Leu Glu Asp Leu Lys Ser Lys Val  
 610 615 620  
 His Ser Ile Lys Pro Ile Asp Leu Glu Asn Thr Lys Ser Arg Gln Gln  
 625 630 635 640  
 Ala Ile Lys Asp Leu Asn Glu Phe Leu Lys Asn Asn Pro Asn Asp Ala  
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 660 665 670  
 Asp Leu Lys Ser Lys Val His Ser Ile Lys Pro Ile Asp Leu Glu Asn  
 675 680 685  
 Thr Lys Ser Arg Gln Gln Ala Ile Lys Asp Leu Asn Glu Phe Xaa Lys  
 690 695 700  
 Asn Asn Pro Asn Asp Ala Gln Ala Ser Lys Thr Leu Ala Gln Ala Tyr  
 705 710 715 720  
 Glu Asn Asn Gly Asp Leu Leu Lys Ala Glu Asn Ala Tyr Glu Lys Ile  
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 Ile Lys Leu Thr Asn Thr Gln Glu Asp His Tyr Lys Leu Gly Ile Ile  
 740 745 750  
 Arg Phe Lys Leu Lys Lys Tyr Glu His Ser Ile Glu Ser Phe Asp Gln  
 755 760 765  
 Thr Ile Lys Leu Asp Pro Lys His Lys Lys Ala Leu His Asn Lys Gly  
 770 775 780  
 Ile Ala Leu Met Met Leu Asn Lys Asn Lys Lys Ala Ile Glu Ser Phe  
 785 790 795 800  
 Glu Lys Ala Ile Gln Ile Asp Lys Asn Tyr Gly Thr Ala Tyr Tyr Gln  
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 Lys Gly Ile Ala Glu Glu Lys Asn Gly Asp Met Gln Gln Ala Phe Ala  
 820 825 830  
 Ser Phe Lys Asn Ala Tyr Asn Leu Asp Lys Asn Pro Asn Tyr Ala Leu  
 835 840 845  
 Lys Ala Gly Ile Val Ser Asn Asn Leu Gly Asn Phe Lys Gln Ser Glu  
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 Glu Tyr Leu Asn Phe Phe Asn Ala Asn Ala Lys Lys Pro Asn Glu Ile  
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Ala Ile Tyr Asn Leu Ser Ile Ala Lys Phe Glu Asn Asn Lys Leu Glu  
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Glu Ser Leu Glu Thr Ile Asn Lys Ala Ile Asp Leu Asn Pro Glu Lys  
900 905 910

Ser Glu Tyr Leu Tyr Leu Lys Ala Ser Ile Asn Leu Lys Lys Glu Asn  
915 920 925

Tyr Gln Asn Ala Ile Ser Leu Tyr Ser Leu Val Ile Glu Lys Asn Pro  
930 935 940

Glu Asn Thr Ser Ala Tyr Ile Asn Leu Ala Lys Ala Tyr Glu Lys Ser  
945 950 955 960

Gly Asn Lys Ser Gln Ala Ile Ser Thr Leu Glu Lys Ile Ile Asn Lys  
965 970 975

Asn Asn Lys Leu Ala Leu Asn Asn Leu Gly Ile Leu Tyr Lys Lys Glu  
980 985 990

Lys Asn Tyr Gln Lys Ala Ile Glu Ile Phe Glu Lys Ala Ile Ile Asn  
995 1000 1005

Ser Asp Ile Glu Ala Lys Tyr Asn Leu Ala Thr Thr Leu Ile Glu Ile  
1010 1015 1020

Asn Asp Asn Thr Arg Ala Lys Asp Leu Leu Arg Glu Tyr Thr Lys Leu  
1025 1030 1035 1040

Lys Pro Asn Asn Pro Glu Ala Leu His Ala Leu Gly Ile Ile Glu Tyr  
1045 1050 1055

Asn Glu Asn Asn Asn Asp Gln Thr Leu Arg Glu Leu Ile Lys Lys Phe  
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<211> 3354

<212> DNA

<213> Homo sapiens

<400> 322

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aaattttcaa attacaaaaa aaatgaaaat attaaaaaaa taataggaat ataa 3354

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&lt;210&gt; 323

&lt;211&gt; 3258

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 323

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tcaaaagact tgcaaagaga ttctgctaata caaatcttag acaagatcaa aggtcaagac 240
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gacagcacia taacagaaaa ctactctgac agaaacgatg atgttggcat tgaagatgaa 360
gacatatctg aatttaaaaa aagcaaaatc ccagaaaaaa taaaaccaa tacaaaccca 420
aaagaagaag accaaaataat acaatctcca aatccgaaat taagtgttaa tgaccaaaaa 480

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&lt;210&gt; 324

&lt;211&gt; 255

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 324

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Phe Leu Ile Leu Ile Leu Asn Ser Lys Leu Ala Tyr Ser Gln Arg Leu

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Gly	Tyr	Tyr	Phe	Leu	Ser	Ile	Ala	Tyr	Arg	Glu	Asn	Asn	Gln	Leu	Thr														
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Glu	Gly	Tyr	Tyr	Pro	Leu	Ala	Ile	Lys	Tyr	Tyr	Ser	Asn	Ser	Ile	Lys														
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Val	Gln	Gln	Gly	Lys	Ile	Thr	Ser	Lys	Glu	Lys	Glu	Tyr	Gln	Lys	Ala														
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Leu	Arg	Ser	Lys	Thr	Glu	Lys	Lys	Asp	Ser	Ile	Leu	Leu	Ile	Ile	Ser														
			180					185					190																
Tyr	Leu	Arg	Asn	Glu	Lys	Ile	Asn	Leu	Glu	Gln	Leu	Asp	Lys	Ser	Leu														
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<210> 325  
 <211> 228  
 <212> PRT  
 <213> Homo sapiens

<400> 325  
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 Pro Lys Val Gln Leu Gly Tyr Tyr Phe Leu Ser Ile Ala Tyr Arg Glu  
 35 40 45

Asn Asn Gln Leu Thr Glu Ala Glu Gly Ala Leu Leu Asp Gly Ile Ala  
50 55 60

Val Gly Gly Glu Ile Asp Tyr Ile Leu Tyr Tyr Glu Leu Gly Asn Ile  
65 70 75 80

Met Phe Asn Arg Gly Glu Gly Tyr Tyr Pro Leu Ala Ile Lys Tyr Tyr  
85 90 95

Ser Asn Ser Ile Lys Ser Arg Pro Asn Tyr Asp Ser Ala Leu Leu Asn  
100 105 110

Arg Ala Asn Ala Tyr Val Gln Gln Gly Lys Ile Thr Ser Lys Glu Lys  
115 120 125

Glu Tyr Gln Lys Ala Trp Asp Ser Tyr Thr Met Ala Ile His Asp Tyr  
130 135 140

Ser Gln Phe Ile Thr Leu Arg Ser Lys Thr Glu Lys Lys Asp Ser Ile  
145 150 155 160

Leu Leu Ile Ile Ser Tyr Leu Arg Asn Glu Lys Ile Asn Leu Glu Gln  
165 170 175

Leu Asp Lys Ser Leu Lys Gly Arg Thr Glu His Ile Val Tyr Ala Lys  
180 185 190

Glu Asp Lys Asn Gln Ile Leu Lys Asp Ser Phe Lys Asp Asn Leu Glu  
195 200 205

Thr Asn Ser Leu Ile Glu Leu Glu Lys Leu Asn Trp Gln Glu Glu Leu  
210 215 220

Tyr Ile Asp Glu  
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<210> 326

<211> 768

<212> DNA

<213> Homo sapiens

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acagaaaaaa aagacagcat tttgcttata ataagctatt taagaaatga aaaaattaat 600  
cttgaacaac ttgacaaaag tttgaagggg cgaaccgagc atattgtata cgcaaaaagaa 660  
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 gatggaattg cagtaggggg tgaaatcgac tacatactat attatgaatt aggcaacata 240  
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 ttgaaggggc gaaccgagca tattgtatac gcaaaagaag ataaaaatca aatacttaaa 600  
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<210> 328  
 <211> 323  
 <212> PRT  
 <213> Homo sapiens

<400> 328  
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 Tyr Ile Leu Lys Glu Asn Glu Ile Ser Ile Thr Thr Arg Leu Gly Lys  
 35 40 45  
 Ile Gln Arg Thr Glu Asn Leu Ala Gly Leu Lys Tyr Lys Ile Pro Leu  
 50 55 60  
 Ile Glu Asn Val Gln Ile Phe Pro Lys Ile Ile Leu Arg Trp Asp Gly  
 65 70 75 80  
 Glu Pro Gln Arg Ile Pro Thr Gly Gly Glu Glu Lys Gln Leu Ile Trp  
 85 90 95  
 Ile Asp Thr Thr Ala Arg Trp Lys Ile Ala Asp Ile Asn Lys Phe Tyr  
 100 105 110  
 Thr Thr Ile Lys Thr Met Ser Arg Ala Tyr Val Arg Ile Asp Ala Ala  
 115 120 125  
 Ile Glu Pro Ala Val Arg Gly Val Ile Ala Lys Tyr Pro Leu Leu Glu  
 130 135 140  
 Ile Ile Arg Ser Ser Asn Asp Pro Ile Gln Arg Leu Ser Asn Gly Ile  
 145 150 155 160  
 Leu Thr Pro Gln Glu Thr Lys Ile Asn Gly Ile Tyr Lys Ile Thr Lys  
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 Gly Arg Lys Ile Ile Glu Lys Glu Ile Ile Arg Ile Ala Asn Asn Asn

[illegible]

Leu Ser Asn Gly Ile Leu Thr Pro Gln Glu Thr Lys Ile Asn Gly Ile  
 130 135 140

Tyr Lys Ile Thr Lys Gly Arg Lys Ile Ile Glu Lys Glu Ile Ile Arg  
 145 150 155 160

Ile Ala Asn Asn Asn Thr Lys Asp Ile Gly Ile Glu Ile Val Asp Val  
 165 170 175

Leu Ile Arg Lys Val Thr Tyr Asp Pro Ser Leu Ile Glu Ser Val Asn  
 180 185 190

Asn Arg Met Ile Ser Glu Arg Gln Gln Ile Ala Glu Glu Gln Arg Ser  
 195 200 205

Ile Gly Leu Ala Glu Lys Thr Glu Ile Leu Gly Ser Ile Glu Lys Glu  
 210 215 220

Lys Leu Lys Ile Leu Ser Glu Ala Lys Ala Thr Ala Ala Lys Ile Lys  
 225 230 235 240

Ala Glu Gly Asp Arg Glu Ala Ala Lys Ile Tyr Ser Asn Ala Tyr Gly  
 245 250 255

Lys Asn Ile Glu Phe Tyr Lys Phe Trp Gln Ala Leu Glu Ser Tyr Lys  
 260 265 270

Ala Val Leu Lys Asp Lys Arg Lys Ile Phe Ser Thr Asp Met Asp Phe  
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Phe Gln Tyr Leu His Lys Arg Asn  
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<210> 330

<211> 972

<212> DNA

<213> Homo sapiens

<400> 330

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gtagacgtac taataagaaa agttacttat gacccaagcc ttattgaatc tgtaaacac 660
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gcatatggca aaaatattga attttacaaa ttctggcagg cattagaaag ctataaagca 900
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 <211> 891  
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 <213> Homo sapiens

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 gccgaagggg atagagaagc cgcaaaaatt tattcaaag catatggcaa aatattgaa 780  
 ttttacaat tctggcaggc attagaaagc tataaagcag tattaagaaga taaaagaaaa 840  
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 <211> 246  
 <212> PRT  
 <213> Homo sapiens

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 Ala Ile Ile Phe Ser Asp Ala Thr Glu Tyr Phe Phe Glu Ile Gln Thr  
 35 40 45  
 Thr Pro Phe Ile Lys Asn Glu Ile Leu Phe Ile Asn Asp Lys Asn Leu  
 50 55 60  
 Glu Ile Ile Lys Asp Lys Leu Lys Thr Thr Lys Lys Ile Leu Leu Thr  
 65 70 75 80  
 His Lys Ser Asn Asn Glu Ile Leu Asn Asn Glu Ile Leu Lys Glu Lys  
 85 90 95  
 Ile Phe Tyr Leu Ser Lys Ile Lys Phe Ser Leu Lys Lys Ser Ile Asp  
 100 105 110  
 Phe Leu Leu Asn Glu Lys Ser Ile Asp Leu Gln Lys Thr Leu Leu Phe  
 115 120 125  
 Arg Asp Lys Ser Leu Asn Asn Glu Asp Leu Glu Tyr Leu Glu Lys Lys  
 130 135 140  
 Gly Lys Glu Lys Asn Val Asn Ile Thr Leu Ile Asn Glu Lys Asn Ile  
 145 150 155 160

Ser Tyr Ile Gln Thr Phe Ile Thr Ser Gln Ile Lys Thr Ile Ile Leu  
165 170 175

Phe Ser Leu Arg Asp Asn Asn Ile Ile Leu Lys Lys Ile Leu Asn Ser  
180 185 190

Pro Phe Ser Lys Asn Ile Lys Phe Val Leu Ile Gly Asn Thr Arg Lys  
195 200 205

Asp Leu Lys Ile Ile Lys Leu Lys Tyr Ile Ile Thr Leu Lys Glu Pro  
210 215 220

Asp Leu Ile Lys Ile Ala Lys Asp Val Glu Lys Asp Phe Gln Tyr Glu  
225 230 235 240

Phe Asn Ile Tyr Lys Gln  
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<210> 333

<211> 220

<212> PRT

<213> Homo sapiens

<400> 333

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Phe Phe Glu Ile Gln Thr Thr Pro Phe Ile Lys Asn Glu Ile Leu Phe  
20 25 30

Ile Asn Asp Lys Asn Leu Glu Ile Ile Lys Asp Lys Leu Lys Thr Thr  
35 40 45

Lys Lys Ile Leu Leu Thr His Lys Ser Asn Asn Glu Ile Leu Asn Asn  
50 55 60

Glu Ile Leu Lys Glu Lys Ile Phe Tyr Leu Ser Lys Ile Lys Phe Ser  
65 70 75 80

Leu Lys Lys Ser Ile Asp Phe Leu Leu Asn Glu Lys Ser Ile Asp Leu  
85 90 95

Gln Lys Thr Leu Leu Phe Arg Asp Lys Ser Leu Asn Asn Glu Asp Leu  
100 105 110

Glu Tyr Leu Glu Lys Lys Gly Lys Glu Lys Asn Val Asn Ile Thr Leu  
115 120 125

Ile Asn Glu Lys Asn Ile Ser Tyr Ile Gln Thr Phe Ile Thr Ser Gln  
130 135 140

Ile Lys Thr Ile Ile Leu Phe Ser Leu Arg Asp Asn Asn Ile Ile Leu  
145 150 155 160

Lys Lys Ile Leu Asn Ser Pro Phe Ser Lys Asn Ile Lys Phe Val Leu  
165 170 175

Ile Gly Asn Thr Arg Lys Asp Leu Lys Ile Ile Lys Leu Lys Tyr Ile

180 185 190  
 Ile Thr Leu Lys Glu Pro Asp Leu Ile Lys Ile Ala Lys Asp Val Glu  
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 Lys Asp Phe Gln Tyr Glu Phe Asn Ile Tyr Lys Gln  
 210 215 220

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 <211> 741  
 <212> DNA  
 <213> Homo sapiens

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 gaatattttt ttgaaattca aacaactcca ttcataaaaa acgaaatact atttataaat 180  
 gacaaaaatt tagaaattat aaaagacaag cttaaaacaa caaaaaaaat actattaact 240  
 cataaatcaa ataataaat tctaaataac gaaattctaa aagagaaaat tttttatcta 300  
 tcaaaaaata aattttctct aaaaaaatct attgactttc tgcttaacga aaaaatcaata 360  
 gatttgcaaa aaacattact atttagagac aaatctctaa ataacgaaga ccttgaatac 420  
 ttggaaaaaa aaggcaaaga aaaaaatgtc aatattactc taataaacga aaaaaacata 480  
 tcctatatcc aaacattcat tacttctcaa ataaaaacaa taatattatt ctctttaaga 540  
 gataataata ttatttttaa aaagatacta aattcgcttt tttctaaaaa tataaaattt 600  
 gtattaattg gcaatacaag aaaagactta aaaattatta agctaaaata tataatcacc 660  
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<210> 335  
 <211> 663  
 <212> DNA  
 <213> Homo sapiens

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 ataaaagaca agcttaaaac aacaaaaaaa atactattaa ctcataaatc aaataatgaa 180  
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 aaaaagatac taaattcgcc tttttctaaa aatataaaat ttgtattaat tggcaataca 540  
 agaaaagact taaaaattat taagctaaaa tatataatca cccttaaaga gcctgatttg 600  
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<210> 336  
 <211> 127  
 <212> PRT  
 <213> Homo sapiens

<400> 336  
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Lys Gly Leu Ala Leu Asn Leu Gly Ile Ser Tyr Phe Thr Ser Pro Thr  
 35 40 45

Tyr Asn Ile Val Asn Val Tyr Asp Phe Ile Asn Phe Lys Phe Tyr His  
 50 55 60

Ile Asp Leu Tyr Arg Val Ser Ser Leu Glu Glu Phe Glu Leu Val Gly  
 65 70 75 80

Gly Leu Glu Ile Leu Met Asp Leu Asp Ser Ile Ile Ala Ile Glu Trp  
 85 90 95

Pro Gln Ile Ala Leu Ser Ile Val Pro Lys Asp Arg Leu Phe Ser Leu  
 100 105 110

Thr Phe Lys Ile Val Gly Ser Gly Arg Val Val Glu Leu Asn Gly  
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<210> 337

<211> 100

<212> PRT

<213> Homo sapiens

<400> 337

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Phe Thr Ser Pro Thr Tyr Asn Ile Val Asn Val Tyr Asp Phe Ile Asn  
 20 25 30

Phe Lys Phe Tyr His Ile Asp Leu Tyr Arg Val Ser Ser Leu Glu Glu  
 35 40 45

Phe Glu Leu Val Gly Gly Leu Glu Ile Leu Met Asp Leu Asp Ser Ile  
 50 55 60

Ile Ala Ile Glu Trp Pro Gln Ile Ala Leu Ser Ile Val Pro Lys Asp  
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Arg Leu Phe Ser Leu Thr Phe Lys Ile Val Gly Ser Gly Arg Val Val  
 85 90 95

Glu Leu Asn Gly  
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<212> DNA

<213> Homo sapiens

<400> 338

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 aaattttatc atattgattt atatcgggtg tcttccttgg aagaatttga gcttggtggg 240  
 ggattggaaa tacttatgga tcttgactcg attattgcta ttgaatggcc acaaattgct 300  
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384

&lt;210&gt; 339

&lt;211&gt; 303

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 339

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tatcgggtgt cttctttgga agaatttgag cttgttgggg gattggaaat acttatggat 180
cttgactcga ttattgctat tgaatggcca caaattgctt tgagcattgt tccaaaagat 240
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taa                                                    303

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&lt;210&gt; 340

&lt;211&gt; 389

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 340

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  1              5              10              15

Ser Leu Ala Phe Ser Ser Glu Ile Phe Glu Phe Lys Tyr Ile Lys Gly
      20              25              30

Ser Lys Phe Arg Leu Glu Gly Thr Asp Asn Gln Lys Ile Tyr Phe Asn
      35              40              45

Gly His Tyr Asn Ser Ser Ser Asn Thr Asn Ile Gln Ile Ser Ser Glu
      50              55              60

Ile Lys Asp Ile Lys Glu Asn Phe Ala Ser Ile Lys Ala Phe Phe Arg
      65              70              75              80

Ile Leu Lys Arg Glu Asn Ile Asn Glu Pro Tyr Leu Leu Asn Glu Glu
      85              90              95

Phe Glu Glu Ile Phe Ser Val Asn Lys Gln Gly Glu Tyr Thr Ile Gly
      100             105             110

Ala Asn Gln Lys Arg Pro Ser Val Arg Gly Ile Pro Arg Phe Pro Lys
      115             120             125

Thr Pro Ile Lys Ile Asn Glu Lys Trp Ser Tyr Leu Ala Glu Glu Tyr
      130             135             140

Ile Glu Ala Ser Lys Ile Asp Lys Ser Ile Lys Asp Phe Val Val Lys
      145             150             155             160

Phe Asn Val Asn Tyr Glu Tyr Lys Gly Lys Glu Glu His Asn Gly Lys
      165             170             175

His Tyr His Ile Ile Leu Ser Asn Tyr Glu Ser Gln Tyr Asn Val Lys
      180             185             190

Asn Ile Ser Phe Tyr Gln Lys Val Asp Gln Lys Ile Tyr Phe Asp Asn

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195                      200                      205  
 Glu Ile Gly Asn Thr Tyr Lys Tyr Ser Asp Lys Tyr Ile Phe Glu Ile  
     210                      215                      220  
 Asn Gln Asn Asn Asn Gln His Phe Lys Met Ile Gly Asn Ser Leu Gly  
     225                      230                      235                      240  
 Arg Ile Val Ser Ile Glu Leu Pro Asn Asp Asn Leu Ile Glu Thr Glu  
                     245                      250                      255  
 Val Glu Asn Tyr Ile Arg Glu Lys Lys Ile Lys Ala Ile Glu Val Glu  
                     260                      265                      270  
 Lys Asn Asn Lys Gly Ile Asn Leu Ser Phe Asp Ile Glu Phe Tyr Pro  
                     275                      280                      285  
 Asn Ser Phe Gln Ile Leu Gln Lys Glu Tyr Lys Lys Ile Asp Leu Ile  
                     290                      295                      300  
 Ala Lys Leu Leu Glu Lys Phe Lys Lys Asn Asn Ile Leu Ile Glu Gly  
     305                      310                      315                      320  
 His Thr Glu Gln Phe Gly Leu Glu Glu Glu Met His Glu Leu Ser Glu  
                     325                      330                      335  
 Lys Arg Ala Arg Ala Ile Gly Asn Tyr Leu Ile Lys Met Lys Val Lys  
                     340                      345                      350  
 Asp Lys Asp Gln Ile Leu Phe Lys Gly Trp Gly Ser Gln Lys Pro Lys  
                     355                      360                      365  
 Tyr Pro Lys Ser Ser Pro Leu Lys Ala Lys Asn Arg Arg Val Glu Ile  
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 Thr Ile Leu Asn Asn  
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                     20                      25                      30  
 Ser Ser Asn Thr Asn Ile Gln Ile Ser Ser Glu Ile Lys Asp Ile Lys  
                     35                      40                      45  
 Glu Asn Phe Ala Ser Ile Lys Ala Phe Phe Arg Ile Leu Lys Arg Glu  
     50                      55                      60  
 Asn Ile Asn Glu Pro Tyr Leu Leu Asn Glu Glu Phe Glu Glu Ile Phe  
     65                      70                      75                      80

Ser Val Asn Lys Gln Gly Glu Tyr Thr Ile Gly Ala Asn Gln Lys Arg  
 85 90 95  
 Pro Ser Val Arg Gly Ile Pro Arg Phe Pro Lys Thr Pro Ile Lys Ile  
 100 105 110  
 Asn Glu Lys Trp Ser Tyr Leu Ala Glu Glu Tyr Ile Glu Ala Ser Lys  
 115 120 125  
 Ile Asp Lys Ser Ile Lys Asp Phe Val Val Lys Phe Asn Val Asn Tyr  
 130 135 140  
 Glu Tyr Lys Gly Lys Glu Glu His Asn Gly Lys His Tyr His Ile Ile  
 145 150 155 160  
 Leu Ser Asn Tyr Glu Ser Gln Tyr Asn Val Lys Asn Ile Ser Phe Tyr  
 165 170 175  
 Gln Lys Val Asp Gln Lys Ile Tyr Phe Asp Asn Glu Ile Gly Asn Thr  
 180 185 190  
 Tyr Lys Tyr Ser Asp Lys Tyr Ile Phe Glu Ile Asn Gln Asn Asn Asn  
 195 200 205  
 Gln His Phe Lys Met Ile Gly Asn Ser Leu Gly Arg Ile Val Ser Ile  
 210 215 220  
 Glu Leu Pro Asn Asp Asn Leu Ile Glu Thr Glu Val Glu Asn Tyr Ile  
 225 230 235 240  
 Arg Glu Lys Lys Ile Lys Ala Ile Glu Val Glu Lys Asn Asn Lys Gly  
 245 250 255  
 Ile Asn Leu Ser Phe Asp Ile Glu Phe Tyr Pro Asn Ser Phe Gln Ile  
 260 265 270  
 Leu Gln Lys Glu Tyr Lys Lys Ile Asp Leu Ile Ala Lys Leu Leu Glu  
 275 280 285  
 Lys Phe Lys Lys Asn Asn Ile Leu Ile Glu Gly His Thr Glu Gln Phe  
 290 295 300  
 Gly Leu Glu Glu Glu Met His Glu Leu Ser Glu Lys Arg Ala Arg Ala  
 305 310 315 320  
 Ile Gly Asn Tyr Leu Ile Lys Met Lys Val Lys Asp Lys Asp Gln Ile  
 325 330 335  
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 Pro Leu Lys Ala Lys Asn Arg Arg Val Glu Ile Thr Ile Leu Asn Asn  
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 <213> Homo sapiens

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 atttcaagtg aaataaaaaga cataaaaagaa aactttgcaa gcattaaagc tttttttaga 240  
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 agaggtattc caagattccc aaaaacacca atcaaaaata atgaaaaatg gtcatatctt 420  
 gcagaagaat atatagaagc gtcaaaaata gacaaaagta taaaagattt cgttgtaaaa 480  
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 gaccaaaaaa tttattttga taatgaaatt ggcaatacat ataaatacag cgataaatat 660  
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 atccgagaaa aaaaaataaa agctattgaa gttgaaaaaa acaataaagg tattaattta 840  
 agcttttgaca ttgaatttta tcttaactca tttcaaatac tacaaaaaga atataaaaaa 900  
 attgacctta tagctaaact tcttgaaaaa tttaaaaaaa ataacatact aatagaagga 960  
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 gcaattggaa attatttaaat aaaaatgaaa gtaaaagaca aagaccaaact actattttaa 1080  
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 <212> DNA  
 <213> Homo sapiens

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 tcaagtgaaa taaaagacat aaaagaaaac tttgcaagca ttaaagcttt ttttagaatc 180  
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 gaagaatata tagaagcgtc aaaaatagac aaaagtataa aagatttcgt tgtaaaattt 420  
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 atagtttcaa ttgagcttcc aaatgataat cttattgaaa ctgaggttga aaattacatc 720  
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 gaccttatag ctaaaacttct tgaaaaattt aaaaaaaata acatactaat agaaggacat 900  
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<210> 344  
 <211> 612  
 <212> PRT  
 <213> Homo sapiens

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 Tyr Ser Leu Phe Phe Val His Lys Gly Phe Leu Ser Lys Asn Val Asn  
 35 40 45  
 Gly Lys Ile Thr Lys Val Gln Val Asn Gly Ile Asn Ser Arg Trp Val  
 50 55 60  
 Tyr Pro Phe Tyr Lys Leu Val Pro Ser Arg Ile Thr Ser Ile Tyr Glu  
 65 70 75 80  
 Asp Val Tyr Ser Ser Ser Ser Phe Leu Thr Thr Ser Asn Asn Leu Tyr  
 85 90 95  
 Val Ser Tyr Asp Tyr Ser Lys Asn Phe Arg Lys Leu Val Gly Ile Asp  
 100 105 110  
 Lys Phe Asn Ser Gly Ala Tyr Ile Thr Ser Ser Ala Phe Ser Gln Gly  
 115 120 125  
 Asp Tyr Lys Arg Ile Ala Ile Gly Thr Ala Ile His Gly Ile Tyr Leu  
 130 135 140  
 Ser Val Asn Gly Ala Ile Ser Phe Lys Asn Leu Asn Arg Leu Ile Pro  
 145 150 155 160  
 Gln Ile Tyr Leu Gly Ala Gly Tyr Tyr Asp Ile Ile Ser Ala Ile Glu  
 165 170 175  
 Phe Ser Lys Glu Glu Thr Asn Asn Leu Tyr Phe Ser Ser Gly Val Tyr  
 180 185 190  
 Gly Asp Ile Phe Leu Ile Ser Gln Lys Ser Gly Phe Ile Lys Lys Ile  
 195 200 205  
 Ser Phe Pro Phe Lys Lys Gln Ile Ile Arg Ile Leu Asp Leu Ser Ser  
 210 215 220  
 Lys Asn Val Glu Lys Ile Leu Val Arg Thr Tyr Asp Asn His Phe Tyr  
 225 230 235 240  
 Ser Tyr Ile Asn Gly Gln Trp Val Phe Ile Gly Lys Leu Ser Leu Gln  
 245 250 255  
 Asp Gln Asp Phe Phe Glu Lys Ser Gln Arg Met Gln Leu Ala Lys Asn  
 260 265 270  
 Lys Gly Ser Ile Tyr Leu Thr Ala Tyr Thr Leu Arg Asn Lys Lys Ala  
 275 280 285  
 Val Asp Glu Arg Phe Lys Phe Ile Lys Asp Ser Gly Met Asn Ala Val  
 290 295 300

Val Ile Asp Phe Lys Asp Asp Asn Gly Asn Leu Thr Tyr Ser Ser Lys  
305 310 315 320

Leu Ser Leu Pro Asn Lys Leu Arg Ser Val Lys Asn Phe Ile Asp Val  
325 330 335

Pro Tyr Ile Leu Lys Lys Ala Lys Glu Leu Gly Ile Tyr Val Ile Ala  
340 345 350

Arg Cys Val Val Phe Lys Asp Ser Lys Leu Tyr Tyr Tyr Asp Asn Phe  
355 360 365

Lys His Ala Leu Trp Asn Lys Lys Thr Asn Lys Pro Trp Ala His Leu  
370 375 380

Ile Lys Lys Val Asp Ser Ser Gly Leu Val Lys Tyr Val Gln Val Glu  
385 390 395 400

His Trp Val Asp Ile Phe Ser Pro Ala Thr Trp Glu Tyr Asn Ile Ser  
405 410 415

Ile Ala Lys Glu Ile Gln Ser Phe Gly Val Asp Glu Ile Gln Phe Asp  
420 425 430

Tyr Ile Arg Phe Pro Ser Asp Gly Pro Val Ser Leu Ala Ile Ser Arg  
435 440 445

Met Asn Lys Tyr Glu Met Gln Pro Val Asp Ala Leu Glu Ser Phe Leu  
450 455 460

Ile Met Ala Arg Glu Gln Leu Tyr Val Pro Ile Ser Val Asp Ile Tyr  
465 470 475 480

Gly Tyr Asn Gly Trp Phe Pro Thr Asn Ser Ile Gly Gln Asn Ile Ser  
485 490 495

Met Leu Ser Asp Tyr Val Asp Val Ile Ser Pro Met Phe Tyr Pro Ser  
500 505 510

His Tyr Thr Asp Asp Phe Leu Pro Ser Asn Phe Tyr Tyr Thr Lys Arg  
515 520 525

Ala Tyr Arg Ile Tyr Lys Glu Gly Ser Asp Arg Ala Leu Ala Phe Ser  
530 535 540

Leu Asp Gly Val Val Ile Arg Pro Tyr Val Gln Ala Phe Leu Leu Gly  
545 550 555 560

Lys Glu Arg Leu Val Asp Asp Glu Ile Tyr Leu Glu Tyr Leu Lys Phe  
565 570 575

Gln Leu Lys Gly Ile Lys Glu Ser Phe Gly Ser Gly Phe Ser Leu Trp  
580 585 590

Asn Ala Ser Asn Val Tyr Tyr Met Ile Lys Gly Ser Leu Lys Glu Tyr  
595 600 605

Leu Asp Ser Phe

610

&lt;210&gt; 345

&lt;211&gt; 592

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 345

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Phe Val His Lys Gly Phe Leu Ser Lys Asn Val Asn Gly Lys Ile Thr  
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Lys Val Gln Val Asn Gly Ile Asn Ser Arg Trp Val Tyr Pro Phe Tyr  
 35 40 45

Lys Leu Val Pro Ser Arg Ile Thr Ser Ile Tyr Glu Asp Val Tyr Ser  
 50 55 60

Ser Ser Ser Phe Leu Thr Thr Ser Asn Asn Leu Tyr Val Ser Tyr Asp  
 65 70 75 80

Tyr Ser Lys Asn Phe Arg Lys Leu Val Gly Ile Asp Lys Phe Asn Ser  
 85 90 95

Gly Ala Tyr Ile Thr Ser Ser Ala Phe Ser Gln Gly Asp Tyr Lys Arg  
 100 105 110

Ile Ala Ile Gly Thr Ala Ile His Gly Ile Tyr Leu Ser Val Asn Gly  
 115 120 125

Ala Ile Ser Phe Lys Asn Leu Asn Arg Leu Ile Pro Gln Ile Tyr Leu  
 130 135 140

Gly Ala Gly Tyr Tyr Asp Ile Ile Ser Ala Ile Glu Phe Ser Lys Glu  
 145 150 155 160

Glu Thr Asn Asn Leu Tyr Phe Ser Ser Gly Val Tyr Gly Asp Ile Phe  
 165 170 175

Leu Ile Ser Gln Lys Ser Gly Phe Ile Lys Lys Ile Ser Phe Pro Phe  
 180 185 190

Lys Lys Gln Ile Ile Arg Ile Leu Asp Leu Ser Ser Lys Asn Val Glu  
 195 200 205

Lys Ile Leu Val Arg Thr Tyr Asp Asn His Phe Tyr Ser Tyr Ile Asn  
 210 215 220

Gly Gln Trp Val Phe Ile Gly Lys Leu Ser Leu Gln Asp Gln Asp Phe  
 225 230 235 240

Phe Glu Lys Ser Gln Arg Met Gln Leu Ala Lys Asn Lys Gly Ser Ile  
 245 250 255

Tyr Leu Thr Ala Tyr Thr Leu Arg Asn Lys Lys Ala Val Asp Glu Arg  
 260 265 270



Phe Lys Phe Ile Lys Asp Ser Gly Met Asn Ala Val Val Ile Asp Phe  
 275 280 285  
 Lys Asp Asp Asn Gly Asn Leu Thr Tyr Ser Ser Lys Leu Ser Leu Pro  
 290 295 300  
 Asn Lys Leu Arg Ser Val Lys Asn Phe Ile Asp Val Pro Tyr Ile Leu  
 305 310 315 320  
 Lys Lys Ala Lys Glu Leu Gly Ile Tyr Val Ile Ala Arg Cys Val Val  
 325 330 335  
 Phe Lys Asp Ser Lys Leu Tyr Tyr Tyr Asp Asn Phe Lys His Ala Leu  
 340 345 350  
 Trp Asn Lys Lys Thr Asn Lys Pro Trp Ala His Leu Ile Lys Lys Val  
 355 360 365  
 Asp Ser Ser Gly Leu Val Lys Tyr Val Gln Val Glu His Trp Val Asp  
 370 375 380  
 Ile Phe Ser Pro Ala Thr Trp Glu Tyr Asn Ile Ser Ile Ala Lys Glu  
 385 390 395 400  
 Ile Gln Ser Phe Gly Val Asp Glu Ile Gln Phe Asp Tyr Ile Arg Phe  
 405 410 415  
 Pro Ser Asp Gly Pro Val Ser Leu Ala Ile Ser Arg Met Asn Lys Tyr  
 420 425 430  
 Glu Met Gln Pro Val Asp Ala Leu Glu Ser Phe Leu Ile Met Ala Arg  
 435 440 445  
 Glu Gln Leu Tyr Val Pro Ile Ser Val Asp Ile Tyr Gly Tyr Asn Gly  
 450 455 460  
 Trp Phe Pro Thr Asn Ser Ile Gly Gln Asn Ile Ser Met Leu Ser Asp  
 465 470 475 480  
 Tyr Val Asp Val Ile Ser Pro Met Phe Tyr Pro Ser His Tyr Thr Asp  
 485 490 495  
 Asp Phe Leu Pro Ser Asn Phe Tyr Tyr Thr Lys Arg Ala Tyr Arg Ile  
 500 505 510  
 Tyr Lys Glu Gly Ser Asp Arg Ala Leu Ala Phe Ser Leu Asp Gly Val  
 515 520 525  
 Val Ile Arg Pro Tyr Val Gln Ala Phe Leu Leu Gly Lys Glu Arg Leu  
 530 535 540  
 Val Asp Asp Glu Ile Tyr Leu Glu Tyr Leu Lys Phe Gln Leu Lys Gly  
 545 550 555 560  
 Ile Lys Glu Ser Phe Gly Ser Gly Phe Ser Leu Trp Asn Ala Ser Asn  
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Val Tyr Tyr Met Ile Lys Gly Ser Leu Lys Glu Tyr Leu Asp Ser Phe  
 580 585 590

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 <212> DNA  
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 <211> 1779  
 <212> DNA  
 <213> Homo sapiens

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 tctaggtggg ttacccttt ttataagctt gttcctagtc gaattacttc tatttatgag 180  
 gatgtttatt cttcaagttc atttttgact acaagtaaca atctttatgt ttcttatgat 240  
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 acatctagtg ccttttctca aggagattac aagcgtattg ctattggaac tgcgattcat 360  
 ggtattttatc ttagtgtaa tggagctatt agttttaaaa atttaaactg tttgattccg 420  
 cagattttatt taggtgcagg atattacgat attattagtg ctattgaatt ttcaaaagaa 480

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tcttatatta atgggcaatg ggtattttatt ggaaaattat ctttgcagga tcaggatttt 720
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tatgttgacg tcatatctcc tatgttttat ccttcgcatt atactgatga ttttttgcca 1500
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aaagaaagat tgggtggatga cgagatttat ttggagtatt taaagtttca gcttaaagga 1680
attaaagagt catttggtag tggcttttagc ctttggaatg catctaattg ttattatatg 1740
attaaaggta gtttaaaaga atatttagat tcttttttaa 1779

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&lt;210&gt; 348

&lt;211&gt; 224

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 348

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Met Ser Ile Lys Lys Phe Ile Leu Thr Leu Ile Ile Leu Ser Leu Ala
 1              5              10              15

Lys Asn Ser Phe Ser Glu Asn Glu Ile Asn Ile Phe Glu Asn Glu Asn
      20              25              30

Tyr Ile Val Lys Glu Asn Ile Lys Thr Glu Ile Lys Lys Leu Lys Gln
      35              40              45

Ser Phe Leu Leu Ala Ser Val Asp Val Ala Ile Ser Gln Pro Tyr Ile
      50              55              60

Glu Leu Ala Asp Leu Asn Gly Glu Pro Ile Lys Glu Leu Glu Gly Ile
      65              70              75              80

Ser Tyr Ser Phe Ile Asn Val Phe Ser Lys Ile Gly Ser Ser Ala Ile
      85              90              95

Ile Ser Phe Asp Leu Ser Asn Glu Ala Ser Lys Lys Tyr Lys Ile Ile
      100              105              110

Lys Leu Glu Phe Leu Ser Pro Asp Lys Gly Asn Phe Ile Asn Gln Leu
      115              120              125

Ser Ser Leu Thr Ser Gly Lys Gln Gln Ser Lys Lys Glu Leu Ala Lys
      130              135              140

Asp Ala Tyr Ser Phe Gly Thr Leu Arg Thr Glu Ser Leu Ser Lys Thr
      145              150              155              160

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His Phe Lys Ser Asn Gln Ile Lys Lys Phe Pro Ile Pro Ile Ile Glu  
210 215 220

<210> 349

<211> 208

<212> PRT

<213> Homo sapiens

<400> 349

Lys Asn Ser Phe Ser Glu Asn Glu Ile Asn Ile Phe Glu Asn Glu Asn  
 .1                      5                      10                      15

Tyr Ile Val Lys Glu Asn Ile Lys Thr Glu Ile Lys Lys Leu Lys Gln  
20 25 30

Ser Phe Leu Leu Ala Ser Val Asp Val Ala Ile Ser Gln Pro Tyr Ile  
35 40 45

Glu Leu Ala Asp Leu Asn Gly Glu Pro Ile Lys Glu Leu Glu Gly Ile  
50 55 60

Ser Tyr Ser Phe Ile Asn Val Phe Ser Lys Ile Gly Ser Ser Ala Ile  
65 70 75 80

Ile Ser Phe Asp Leu Ser Asn Glu Ala Ser Lys Lys Tyr Lys Ile Ile  
85 90 95

Lys Leu Glu Phe Leu Ser Pro Asp Lys Gly Asn Phe Ile Asn Gln Leu  
100 105 110

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.Ser Ser Leu Thr Ser Gly Lys Gln Gln Ser Lys Lys Glu Leu Ala Lys
      115                      120      125

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Asp Ala Tyr Ser Phe Gly Thr Leu Arg Thr Glu Ser Leu Ser Lys Thr  
130 135 140

Ile Ala Glu Tyr Tyr Lys Asp Asn Asn Trp Tyr Tyr Ile Leu Ala Ala  
145 150 155 160

Ile Thr Val Glu Asn Asn Ile Asn Lys Glu Thr Glu Lys Tyr Glu Ile  
165 170 175

Arg Ile Asn Pro Lys Ile Tyr Asn Asp Phe Gln Lys Lys Leu Arg Leu  
180 185 190

His Phe Lys Ser Asn Gln Ile Lys Lys Phe Pro Ile Pro Ile Ile Glu  
 195 200 205

<210> 350  
 <211> 675  
 <212> DNA  
 <213> Homo sapiens

<400> 350  
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 tctgaaaacg aaattaatat cttcgaaaac gaaaattata ttgtaaaaga aaatataaaa 120  
 acagaaatta aaaaactaaa acaaagtttt ttacttgcac ctggtgatgt cgccattagc 180  
 caaccctaca tagaattggc agatttaaat ggagaaccga taaaagaact tgaagggatt 240  
 agttattcat ttataaatgt attttcaaaa attggatcct ctgctattat ttcatttgac 300  
 ctatcaaacg aagcttccaa gaaatacaaaa atcataaaat tagaattttt aagtccagat 360  
 aaaggcaatt ttattaacca gctaagcagc cttactagt gaaaacagca atcaaaaaaa 420  
 gagcttgcaa agacgctta ctcatcttgg acattaagaa ctgaatctct ttcaaaaaaa 480  
 attgcagaat attacaaga taacaactgg tattatattt tagcagcaat aacagtagaa 540  
 aataatataa ataaagaaac tgaaaaatac gaaattagaa ttaaccctaa aatatataat 600  
 gattttcaaa aaaaattgag attacatttt aaaagcaacc aaataaaaaa atttccaata 660  
 cccattatag aataa 675

<210> 351  
 <211> 627  
 <212> DNA  
 <213> Homo sapiens

<400> 351  
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 gtcgccatta gccaaccta catagaattg gcagatttaa atggagaacc gataaaagaa 180  
 cttgaaggga ttagtatttc atttataaat gtattttcaa aaattggatc ttctgctatt 240  
 atttcatttg acctatcaaa cgaagcttcc aagaaataca aaatcataaa attagaattt 300  
 ttaagtccag ataaaggcaa ttttattaac cagctaagca gccttactag tggaaaacag 360  
 caatcaaaaa aagagcttgc aaaagacgct tactcatttg gtacattaag aactgaatct 420  
 ctttcaaaaa caattgcaga atattacaaa gataacaact ggtattatat ttagcagca 480  
 ataacagtag aaaataatat aaataaagaa actgaaaaat acgaaattag aattaaccct 540  
 aaaatatata atgattttca aaaaaaattg agattacatt ttaaaagcaa ccaataaaaa 600  
 aaatttccaa taccattat agaataa 627

<210> 352  
 <211> 127  
 <212> PRT  
 <213> Homo sapiens

<400> 352  
 Met Lys Lys His Ile Ile Ile Gly Ile Ile Phe Val Ala Ile Leu Leu  
 1 5 10 15  
 Phe Phe Lys Ile Leu Leu Ile Pro Arg Ile Gln Asn His Glu Asn Asn  
 20 25 30  
 Lys Asn Asn Ile Lys Met Ile Ile Ser Tyr Lys Gln Asp Lys Asn Arg  
 35 40 45

Leu Ser Leu Lys Ile Asn Ile Lys Thr Lys Lys Thr Thr Asn Leu Gly  
50 55 60

Lys Ala Lys Leu Asp Ile Tyr Leu Asp Ser Lys Leu Ile Glu Ser Asn  
65 70 75 80

Leu Leu Tyr Ile Ser Ser Lys Asn Phe Thr Thr Tyr Ala Asn Ile Ile  
85 90 95

Tyr Gln Asn Glu Ser Leu Leu Ser Ile Ile Leu Lys Ser Asn Gly Asn  
100 105 110

Asn Asn Val Phe Tyr Ser Lys Arg Ile Lys Pro Arg Gly Lys Ile  
115 120 125

<210> 353

<211> 99

<212> PRT

<213> Homo sapiens

<400> 353

His Glu Asn Asn Lys Asn Asn Ile Lys Met Ile Ile Ser Tyr Lys Gln  
1 5 10 15

Asp Lys Asn Arg Leu Ser Leu Lys Ile Asn Ile Lys Thr Lys Lys Thr  
20 25 30

Thr Asn Leu Gly Lys Ala Lys Leu Asp Ile Tyr Leu Asp Ser Lys Leu  
35 40 45

Ile Glu Ser Asn Leu Leu Tyr Ile Ser Ser Lys Asn Phe Thr Thr Tyr  
50 55 60

Ala Asn Ile Ile Tyr Gln Asn Glu Ser Leu Leu Ser Ile Ile Leu Lys  
65 70 75 80

Ser Asn Gly Asn Asn Asn Val Phe Tyr Ser Lys Arg Ile Lys Pro Arg  
85 90 95

Gly Lys Ile

<210> 354

<211> 384

<212> DNA

<213> Homo sapiens

<400> 354

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agctacaagc aagacaaaaa cagattatcg cttaaagataa acataaaaaac aaaaaaaact 180  
accaacctgg gaaaagccaa actagatatt tatctagaca gttaaattaat tgaaagcaat 240  
ttgttttata taagcagcaa aaactttaca acatatgcta atataatcta tcaaaatgaa 300  
agtttattaa gtataatatt aaagagtaat ggcaataata atgtctttta tagtaaaaga 360  
ataaaaccta gaggtaaaat atga 384

<210> 355

<211> 300

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 355

cacgaaaata ataaaaataa tatcaaaatg ataataagct acaagcaaga caaaaacaga 60  
 ttatcgctaa agataaacat aaaaacaaaa aaaactacca acctgggaaa agccaaacta 120  
 gatatttatc tagacagtaa attaattgaa agcaatttgc tttatataag cagcaaaaac 180  
 tttaacaacat atgctaatat aatctatcaa aatgaaagtt tattaagtat aatattaaag 240  
 agtaatggca ataataatgt cttttatagt aaaagaataa aacctagagg taaaatatga 300

&lt;210&gt; 356

&lt;211&gt; 378

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 356

Met Lys Lys His Tyr Lys Ala Leu Ile Leu Ser Leu Leu Phe Ala Ile  
 1 5 10 15  
 Ile Ser Cys Asn Thr Lys Thr Leu Asn Glu Leu Gly Glu Glu Gln Phe  
 20 25 30  
 Lys Ile Pro Phe Gly Thr Leu Pro Gly Ala Ile Met Pro Leu Asn Asn  
 35 40 45  
 Lys Phe Thr Asn Ser Lys Phe Asp Ile Lys Thr Tyr Asn Gly Leu Val  
 50 55 60  
 Tyr Ile Ala Glu Ile Lys Thr Asn Lys Leu Met Ile Phe Asn Ser Tyr  
 65 70 75 80  
 Gly Lys Leu Ile Gln Thr Tyr Gln Asn Gly Ile Phe Lys Thr Asn Pro  
 85 90 95  
 Asp Leu Lys Ile Lys Lys Ile Asp Phe Glu Gly Ile Gln Ala Ile Tyr  
 100 105 110  
 Pro Leu Lys Asp Phe Ile Ile Val Ala Asp Lys Leu Asn Asn Lys Lys  
 115 120 125  
 Ser Lys Phe Asn Gln Lys Glu Asn Ile Ala Tyr Phe Met Arg Ile Leu  
 130 135 140  
 Ile Leu Asn Lys Asn Ser Ser Val Glu Ile Leu Gly Gln Glu Gly Leu  
 145 150 155 160  
 Asn Gly Met Pro Phe Pro Gln Ile Tyr Asp Val Asn Val Asp Glu Asn  
 165 170 175  
 Gly Asn Ile Ala Ile Ile Ser Ile Tyr Ser Glu Gly Tyr Ile Ile Tyr  
 180 185 190  
 Ser Tyr Asn Lys Glu Phe Ser Pro Leu Tyr Lys Ile Tyr Val Asn Lys  
 195 200 205  
 Asn Leu Leu Lys Thr Ile Asp Asn Gln Lys Lys Lys Tyr Asn Ile Ser  
 210 215 220

276.

Ile Asp Lys Val Phe Phe Glu Val Asn Lys Lys Thr Leu Tyr Val Lys  
 225 230 235 240

Thr Thr Tyr Tyr Glu Asn Ile Gly Asp Asn Glu Asn Ile Asn Asp Leu  
 245 250 255

Gly Ile Lys Ile Lys Asp Gln Tyr Ile Tyr Lys Met Ser Leu Lys Lys  
 260 265 270

Asn Lys Glu Leu Glu Val Ile Asn Lys Ile Ala Leu Pro Lys Asn Leu  
 275 280 285

Leu Asp Asp Lys Gln Glu Ser Phe Ile Asn Ile Ile Lys Ile Gln Lys  
 290 295 300

Asp Lys Ile Ile Ala Ser Thr Asn Met Lys Asn Leu Ser Asn Asn Leu  
 305 310 315 320

Ile Trp Lys Leu Asp Ser Lys Gly Ser Ile Lys Glu Gln Ile Ala Leu  
 325 330 335

Ile Glu Pro Pro Asn Leu Met Phe Leu Ser Glu Ser Leu Ser Lys Asp  
 340 345 350

Gly Ile Leu Ser Ile Leu Tyr Gly Gly Lys Thr Gly Val Ser Val Tyr  
 355 360 365

Trp Trp Asn Leu Asn Ala Leu Leu Lys Leu  
 370 375

<210> 357  
 <211> 357  
 <212> PRT  
 <213> Homo sapiens

<400> 357  
 Lys Thr Leu Asn Glu Leu Gly Glu Glu Gln Phe Lys Ile Pro Phe Gly  
 1 5 10 15

Thr Leu Pro Gly Ala Ile Met Pro Leu Asn Asn Lys Phe Thr Asn Ser  
 20 25 30

Lys Phe Asp Ile Lys Thr Tyr Asn Gly Leu Val Tyr Ile Ala Glu Ile  
 35 40 45

Lys Thr Asn Lys Leu Met Ile Phe Asn Ser Tyr Gly Lys Leu Ile Gln  
 50 55 60

Thr Tyr Gln Asn Gly Ile Phe Lys Thr Asn Pro Asp Leu Lys Ile Lys  
 65 70 75 80

Lys Ile Asp Phe Glu Gly Ile Gln Ala Ile Tyr Pro Leu Lys Asp Phe  
 85 90 95

Ile Ile Val Ala Asp Lys Leu Asn Asn Lys Lys Ser Lys Phe Asn Gln  
 100 105 110

Lys Glu Asn Ile Ala Tyr Phe Met Arg Ile Leu Ile Leu Asn Lys Asn



115	120	125
Ser Ser Val Glu Ile Leu Gly Gln Glu Gly Leu Asn Gly Met Pro Phe		
130	135	140
Pro Gln Ile Tyr Asp Val Asn Val Asp Glu Asn Gly Asn Ile Ala Ile		
145	150	155 160
Ile Ser Ile Tyr Ser Glu Gly Tyr Ile Ile Tyr Ser Tyr Asn Lys Glu		
	165	170 175
Phe Ser Pro Leu Tyr Lys Ile Tyr Val Asn Lys Asn Leu Leu Lys Thr		
	180	185 190
Ile Asp Asn Gln Lys Lys Lys Tyr Asn Ile Ser Ile Asp Lys Val Phe		
	195	200 205
Phe Glu Val Asn Lys Lys Thr Leu Tyr Val Lys Thr Thr Tyr Tyr Glu		
	210	215 220
Asn Ile Gly Asp Asn Glu Asn Ile Asn Asp Leu Gly Ile Lys Ile Lys		
225	230	235 240
Asp Gln Tyr Ile Tyr Lys Met Ser Leu Lys Lys Asn Lys Glu Leu Glu		
	245	250 255
Val Ile Asn Lys Ile Ala Leu Pro Lys Asn Leu Leu Asp Asp Lys Gln		
	260	265 270
Glu Ser Phe Ile Asn Ile Ile Lys Ile Gln Lys Asp Lys Ile Ile Ala		
	275	280 285
Ser Thr Asn Met Lys Asn Leu Ser Asn Asn Leu Ile Trp Lys Leu Asp		
	290	295 300
Ser Lys Gly Ser Ile Lys Glu Gln Ile Ala Leu Ile Glu Pro Pro Asn		
305	310	315 320
Leu Met Phe Leu Ser Glu Ser Leu Ser Lys Asp Gly Ile Leu Ser Ile		
	325	330 335
Leu Tyr Gly Gly Lys Thr Gly Val Ser Val Tyr Trp Trp Asn Leu Asn		
	340	345 350
Ala Leu Leu Lys Leu		
355		

&lt;210&gt; 358

&lt;211&gt; 1137

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 358

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atgaaaaaac actataaagc tcttatatta agcttgcttt ttgcaattat atcatgtaat 60
actaaaactt taaacgaatt aggagaagaa caatttaaaa taccatttgg aacacttcct 120
ggtgcaataa tgcctctgaa taacaaattht acaaattcaa aatttgacat caaacgtat 180
aacgggctag tgtacattgc agaaataaaa acaaataaat taatgatttt caactcatat 240
ggaaaactaa tacaacata tcaaaatgga atatttaaaa caaaccccgga tttaaaaaata 300

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aaaaaaatag attttgaagg aattcaagca atatacccac taaaagattt tattattgtc 360
gcagacaaac taaataataa aaaatcaaaa ttcaaccaa aagagaatat tgcctacttc 420
atgagaatac taatactaaa caaaaactca tctgtagaaa ttttgggtca agaagggtta 480
aacggaatgc catttccaca aatttatgat gttaatgttg atgaaaatgg caacattgca 540
ataatatcaa tatatagcga aggatatata atatatctt acaataaaga attttccccg 600
ctttataaaa tttagtcaa caaaaacctg ttaaaaaaca tagacaatca aaagaaaaaa 660
tacaacattt caatagataa gggttttttt gaagtcaaca aaaaaactct ttatgtaaaa 720
actacttact atgaaaacat tgggtgacaat gaaaatataa acgatcttgg aattaaaatt 780
aaagatcaat atatctataa aatgagtttg aaaaaaaca aagaattaga agtgataaat 840
aaaattgtct ttctataaaa cttactagat gataaacaag aaagctttat aaacattata 900
aaaatacaaa aagacaaaat aatagcatct actaatatga aaaatttatc taacaattta 960
atatggaaat tagacagcaa gggctcaatt aaagaacaaa tagctttaat tgagcctcca 1020
aatttaatgt ttctctctga gagtttatct aaagatggaa tacttagtat actttatggc 1080
ggaaaaactg gtgttagtgt ttactggttg aatttaaatg cattattaaa attataa 1137

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&lt;210&gt; 359

&lt;211&gt; 1074

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 359

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aaaactttta acgaattagg agaagaacaa tttaaaatac catttggaa accttctggt 60
gcaataatgc ctctgaataa caaattttaca aattcaaaat ttgacatcaa aacgtataac 120
gggctagtgt acattgcaga aataaaaaaca aataaattaa tgattttcaa ctcatcagg 180
aaactaatac aaacatatca aaatggaata tttaaaacaa accccgattt aaaaataaaa 240
aaaatagatt ttgaaggaat tcaagcaata taccactaa aagattttat tattgtcgca 300
gacaaactaa ataataaaaa atcaaaattc aacaaaaaag agaattattg ctacttcatg 360
agaatactaa tactaaacaa aaactcatct gtagaaattt tgggtcaaga aggtttaaac 420
ggaaatgccat ttccacaaat ttatgatgtt aatgttgatg aaaatggcaa cattgcaata 480
atatcaatat atagcgaagg atatataata tattcttaca ataaagaatt ttccccgctt 540
tataaaattt acgtcaacaa aaacctgtta aaaacaatag acaatcaaaa gaaaaaatac 600
aacattttcaa tagataaggt tttttttgaa gtcaacaaaa aaactcttta tgtaaaaact 660
acttactatg aaaacatttg tgacaatgaa aatataaacg atcttggaa taaaattaaa 720
gatcaatata tctataaaat gagtttgaaa aaaaacaaag aattagaagt gataaataaa 780
attgctcttc ctaaaaactt actagatgat aaacaagaaa gctttataaa cattataaaa 840
atacaaaaag acaaaaataat agcatctact aatatgaaaa atttatctaa caatttaata 900
tggaaattag acagcaaggg ctcaattaaa gaacaaatag ctttaattga gcctccaaat 960
ttaatgtttc tctctgagag tttatctaaa gatggaatac ttagtatact ttatggcgga 1020
aaaactggtg ttagtggtta ctggtggaat ttaaatgcat tattaataat ataa 1074

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&lt;210&gt; 360

&lt;211&gt; 290

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 360

```

Met Tyr Lys Leu Phe Leu Phe Phe Ile Ile Phe Met Phe Leu Ser Cys
  1             5             10             15

Asp Glu Lys Lys Ser Ser Lys Asn Leu Lys Ser Val Lys Ile Gly Tyr
      20             25             30

Val Asn Trp Gly Gly Glu Thr Ala Ala Thr Asn Val Leu Lys Val Val
      35             40             45

Phe Glu Lys Met Gly Tyr Asn Ala Glu Ile Phe Ser Val Thr Thr Ser
      50             55             60

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Ile Met Tyr Gln Tyr Leu Ala Ser Gly Lys Ile Asp Gly Thr Val Ser  
 65 70 75 80  
 Ser Trp Val Pro Thr Ala Asp Lys Phe Tyr Tyr Glu Lys Leu Lys Thr  
 85 90 95  
 Lys Phe Val Asp Leu Gly Ala Asn Tyr Glu Gly Thr Ile Gln Gly Phe  
 100 105 110  
 Val Val Pro Ser Tyr Val Pro Ile Ser Ser Ile Ser Glu Leu Lys Gly  
 115 120 125  
 Lys Gly Asp Lys Phe Lys Asn Lys Met Ile Gly Ile Asp Ala Gly Ala  
 130 135 140  
 Gly Thr Gln Ile Val Thr Glu Gln Ala Leu Asn Tyr Tyr Gly Leu Ser  
 145 150 155 160  
 Lys Glu Tyr Glu Leu Val Pro Ser Ser Glu Ser Val Met Leu Ala Ser  
 165 170 175  
 Leu Asp Ser Ser Ile Lys Arg Asn Glu Trp Ile Leu Val Pro Leu Trp  
 180 185 190  
 Lys Pro His Trp Ala Phe Ser Arg Tyr Asp Ile Lys Phe Leu Asp Asp  
 195 200 205  
 Pro Asp Leu Ile Met Gly Gly Ile Glu Ser Val His Thr Leu Val Arg  
 210 215 220  
 Leu Gly Leu Glu Asn Asp Asp Phe Asp Ala Tyr Tyr Val Phe Asp His  
 225 230 235 240  
 Phe Tyr Trp Ser Asp Asp Leu Ile Leu Pro Leu Met Asp Lys Asn Asp  
 245 250 255  
 Lys Glu Pro Gly Lys Glu Tyr Arg Asn Ala Val Glu Phe Val Glu Lys  
 260 265 270  
 Asn Lys Glu Ile Val Lys Thr Trp Val Pro Glu Lys Tyr Lys Thr Leu  
 275 280 285  
 Phe Asp  
 290

<210> 361  
 <211> 275  
 <212> PRT  
 <213> Homo sapiens

<400> 361  
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 1 5 10 15  
 Tyr Val Asn Trp Gly Gly Glu Thr Ala Ala Thr Asn Val Leu Lys Val  
 20 25 30  
 Val Phe Glu Lys Met Gly Tyr Asn Ala Glu Ile Phe Ser Val Thr Thr

35                      40                      45  
 Ser Ile Met Tyr Gln Tyr Leu Ala Ser Gly Lys Ile Asp Gly Thr Val  
     50                      55                      60  
 Ser Ser Trp Val Pro Thr Ala Asp Lys Phe Tyr Tyr Glu Lys Leu Lys  
     65                      70                      75                      80  
 Thr Lys Phe Val Asp Leu Gly Ala Asn Tyr Glu Gly Thr Ile Gln Gly  
                     85                      90                      95  
 Phe Val Val Pro Ser Tyr Val Pro Ile Ser Ser Ile Ser Glu Leu Lys  
                     100                      105                      110  
 Gly Lys Gly Asp Lys Phe Lys Asn Lys Met Ile Gly Ile Asp Ala Gly  
                     115                      120                      125  
 Ala Gly Thr Gln Ile Val Thr Glu Gln Ala Leu Asn Tyr Tyr Gly Leu  
                     130                      135                      140  
 Ser Lys Glu Tyr Glu Leu Val Pro Ser Ser Glu Ser Val Met Leu Ala  
     145                      150                      155                      160  
 Ser Leu Asp Ser Ser Ile Lys Arg Asn Glu Trp Ile Leu Val Pro Leu  
                     165                      170                      175  
 Trp Lys Pro His Trp Ala Phe Ser Arg Tyr Asp Ile Lys Phe Leu Asp  
                     180                      185                      190  
 Asp Pro Asp Leu Ile Met Gly Gly Ile Glu Ser Val His Thr Leu Val  
                     195                      200                      205  
 Arg Leu Gly Leu Glu Asn Asp Asp Phe Asp Ala Tyr Tyr Val Phe Asp  
                     210                      215                      220  
 His Phe Tyr Trp Ser Asp Asp Leu Ile Leu Pro Leu Met Asp Lys Asn  
     225                      230                      235                      240  
 Asp Lys Glu Pro Gly Lys Glu Tyr Arg Asn Ala Val Glu Phe Val Glu  
                     245                      250                      255  
 Lys Asn Lys Glu Ile Val Lys Thr Trp Val Pro Glu Lys Tyr Lys Thr  
                     260                      265                      270  
 Leu Phe Asp  
     275

&lt;210&gt; 362

&lt;211&gt; 873

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 362

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 agttcaaaga atttaaaatc ggtaaaaatt ggatatgtga attgggggtg agaaacggca 120  
 gctacaaatg tattaaggt tgtttttgag aaaatgggct acaatgcaga aatattttca 180  
 gttactacgt ctataatgta tcaatactta gcatctggaa agatagacgg tacgggtgtct 240  
 tcttgggttc ctacagccga taaattttat tatgaaaaac tgaaaacaaa gtttgttgat 300

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cttgggtgcaa attatgaagg aaccattcaa ggttttgtgg tgccaagcta tgttccaatt 360
tccagcatta gtgagcttaa gggtaaagg gataagttta aaaacaaaat gattggcata 420
gatgctgggt cggaactca aattgttaca gaacaagcgc ttaattatta tggattaagt 480
aaagagtatg agctagttcc ttcaagtga agtgttatgc ttgcaagttt agattcttca 540
ataaagagaa acgaatggat tttagttcct ttgtggaagc ctcatggggc tttttctagg 600
tatgatatta agtttcttga tgatcctgat ttaattatgg ggggaattga gagcgtgcat 660
actcttggtt gacttggtct tgaaaatgat gattttgatg cataattatgt ttttgatcat 720
ttttattgga gcgatgattt aatattgccc ttaattggata aaaatgataa agagccaggc 780
aaagaatacc gcaatgcggt tgaatttggt gaaaagaata aagagattgt aaagacgtgg 840
gttccagaaa aatataagac cttatttgat taa 873

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<210> 363

<211> 828

<212> DNA

<213> Homo sapiens

<400> 363

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tgtgatgaaa aaaagagttc aaagaattta aaatcggtta aaattggata tgtgaattgg 60
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gcagaaatat tttcagttac tacgtctata atgtatcaat acttagcatc tggaaagata 180
gacgggtacgg tgtcttcttg ggttcctaca gccgataaat tttattatga aaaactgaaa 240
acaaagtttg ttgatcttgg tgcaaattat gaaggaacca ttcaagggtt tgtggtgcca 300
agctatgttc caatttcag cattagtga ctttaagggtta aagggtgataa gtttaaaaac 360
aaaatgattg gcatagatgc tgggtgcggga actcaaattg ttacagaaca agcgcttaat 420
tattatggat taagtaaaga gtatgagcta gttccttcaa gtgagagtgt tatgcttgca 480
agtttagatt cttcaataaa gagaaacgaa tggatttttag ttcctttgtg gaagcctcat 540
tgggcttttt ctaggtatga tattaagttt cttgatgac ctgatttaat tatgggggga 600
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<210> 364

<211> 1036

<212> PRT

<213> Homo sapiens

<400> 364

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Val Tyr Pro Gly Ala Ser Pro Arg Glu Val Glu Glu Ser Val Ser Arg
          50             55             60
Val Leu Glu Ser Gly Leu Ser Ser Val Lys Asn Leu Lys Asn Ile Tyr
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Ser Val Ser Ser Lys Glu Ser Ser Thr Val Ser Leu Glu Phe Tyr His
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Gly Thr Asp Leu Asp Leu Val Leu Asn Glu Ile Arg Asp Ala Leu Glu
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 Pro Gly Leu Glu Arg Leu Asp Gly Val Ala Ile Val Thr Val Asn Gly  
 165 170 175  
 Gly Ser Lys Lys Arg Val Leu Ile Glu Val Ser Gln Asn Arg Leu Glu  
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 Ser Tyr Gly Leu Ser Leu Ser Arg Ile Ser Ser Ile Ile Ala Ser Gln  
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 Asn Leu Glu Leu Ser Ala Gly Asn Ile Leu Glu Asn Asn Leu Glu Tyr  
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 225 230 235 240  
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 <212> PRT  
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<400> 365

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<213> Homo sapiens

<400> 366

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&lt;211&gt; 3024

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 367

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gagtttttgt	atatcaattt	attaaatata	gttttaaatc	acaaattgat	ttttgggttg	1560
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tttactagag	ggaaagagaa	ctcaattact	attaatttaa	attttcccca	caaaactaat	1680
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tataaaatta tgaatcgtat tggtaatcct tatcctgaat ttaatatatga gccttccatt 1920
agtggcaatg ctttaggtgg tggagattct attaaaatta aaatttcggc caatgatttt 1980
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```

&lt;210&gt; 368

&lt;211&gt; 129

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 368

```

Met Leu Lys Asn His Ser Lys Leu Ile Ile Gln Leu Lys Val Val Met
  1             5             10             15

```

```

Met Ile Tyr Leu Lys Lys Met Gly Asn Asp Met Thr Lys Phe Tyr Asn
      20             25             30

```

```

Tyr Arg Ile Glu Ile Val Ser Asn Leu Ser Leu Glu Leu Asp Val Phe
      35             40             45

```

```

Glu Cys Ile Glu Lys Ile Glu Gln Glu Leu Gly Glu Ser Ile Tyr Tyr
      50             55             60

```

```

Ser Lys Ile Gly Asn Val Tyr Gly Lys Gly Lys Lys Gly Glu Lys His
      65             70             75             80

```

```

Gly Asn Gly Val Trp Pro Glu Glu Asn Phe Ile Leu Ile Ile Tyr Thr
      85             90             95

```

```

Ser Asn Gln Ser Ile Val Glu Arg Leu Lys Asp Ile Val Asp Asp Leu
      100            105            110

```

```

Asn Arg Ser Tyr Pro Thr Glu Gly Ile Asn Leu Phe Val Leu Arg Asn
      115            120            125

```

Ser

&lt;210&gt; 369

&lt;211&gt; 109

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 369

Lys Lys Met Gly Asn Asp Met Thr Lys Phe Tyr Asn Tyr Arg Ile Glu  
 1 5 10 15

Ile Val Ser Asn Leu Ser Leu Glu Leu Asp Val Phe Glu Cys Ile Glu  
 20 25 30

Lys Ile Glu Gln Glu Leu Gly Glu Ser Ile Tyr Tyr Ser Lys Ile Gly  
 35 40 45

Asn Val Tyr Gly Lys Gly Lys Lys Gly Glu Lys His Gly Asn Gly Val  
 50 55 60

Trp Pro Glu Glu Asn Phe Ile Leu Ile Ile Tyr Thr Ser Asn Gln Ser  
 65 70 75 80

Ile Val Glu Arg Leu Lys Asp Ile Val Asp Asp Leu Asn Arg Ser Tyr  
 85 90 95

Pro Thr Glu Gly Ile Asn Leu Phe Val Leu Arg Asn Ser  
 100 105

&lt;210&gt; 370

&lt;211&gt; 390

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 370

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 ttatcttttag agcttgatgt ttttgaatgt atagaaaaaa tagagcaaga gttaggagag 180  
 tctatatatt attctaagat aggaaatgtt tatggaaaaag gtaagaaggg agaaaagcat 240  
 ggtaatggcg tttggcctga agaaaatgtt attttgatta tttatacctc caatcagtct 300  
 attggtgagc gattaaagga tattgtggat gatttgaatc gttcttacct tacagaaggg 360  
 attaattctt ttgttttgag aaattcttaa 390

&lt;210&gt; 371

&lt;211&gt; 330

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 371

aagaagatgg ggaatgatat gactaaatgt tataattata ggattgaaat agtttctaac 60  
 ttatcttttag agcttgatgt ttttgaatgt atagaaaaaa tagagcaaga gttaggagag 120  
 tctatatatt attctaagat aggaaatgtt tatggaaaaag gtaagaaggg agaaaagcat 180  
 ggtaatggcg tttggcctga agaaaatgtt attttgatta tttatacctc caatcagtct 240  
 attggtgagc gattaaagga tattgtggat gatttgaatc gttcttacct tacagaaggg 300  
 attaattctt ttgttttgag aaattcttaa 330

&lt;210&gt; 372

&lt;211&gt; 625

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 372

Met Leu Asn Asn Thr Tyr Arg Ile Lys Thr Ile Leu Thr Ile Phe Leu  
 1 5 10 15  
 Ala Ile Thr Leu Leu Thr Ile Tyr Lys Tyr Phe Thr Leu Met Ala Phe  
 20 25 30  
 Asn Asn Ser Pro Asp Asn Thr Ile Ser Leu Lys Ser Asn Asp Ile Ala  
 35 40 45  
 Lys Arg Gly Thr Ile Tyr Asp Arg Asn Gly Lys Pro Ile Ala Phe Ser  
 50 55 60  
 Ser Lys Ser Tyr Ser Ile Gly Thr Asn Pro Gln Lys Ile Glu Asn Ile  
 65 70 75 80  
 Val Ser Thr Ser Glu Thr Leu Gly Ala Ile Leu Gln Ile Asn Ser Arg  
 85 90 95  
 Ile Leu Lys Glu Lys Leu Ser Ser Asn Lys Gly Phe Leu Tyr Ile Lys  
 100 105 110  
 Arg Lys Ile Lys Arg Glu Glu Ser Asp Leu Ile Lys Arg Ile Gln Ala  
 115 120 125  
 Glu Gly Arg Leu Ser Asn Ile Thr Leu Tyr Pro Asp Tyr Thr Arg Ile  
 130 135 140  
 Tyr Pro Phe Arg Asn Thr Thr Ser Asn Ile Thr Gly Phe Val Gly Thr  
 145 150 155 160  
 Asp Asn Leu Gly Leu Glu Gly Ile Glu Phe Ser Leu Asn Ser Ile Leu  
 165 170 175  
 Gly Lys Asp Lys Thr Lys Gln Gln Phe Leu Asn Glu Glu Pro Glu Thr  
 180 185 190  
 Asn Asn Ile His Leu Thr Ile Asp Met Asp Ile Gln Gln Gly Val Ser  
 195 200 205  
 Lys Ile Ala Lys Lys Tyr Phe Lys Glu Asn Asn Pro Glu Ser Leu Ile  
 210 215 220  
 Thr Leu Val Met Asn Ser Gln Asn Gly Glu Ile Leu Ser Met Val Gln  
 225 230 235 240  
 Phe Pro Gln Tyr Asp Ala Asn Phe Tyr Ser Lys Tyr Pro Glu Glu Ile  
 245 250 255  
 Arg Lys Asn Leu Ser Ser Ser Leu Thr Tyr Glu Pro Gly Ser Ile Asn  
 260 265 270  
 Lys Ile Phe Thr Val Ala Ile Ile Leu Glu Ser Gly Lys Leu Asn Leu  
 275 280 285  
 Glu Glu Lys Phe Leu Asp Asn Gly Ile Tyr Gln Lys Gln Phe Pro Ser  
 290 295 300  
 Gly Glu Lys Ile Thr Ile Lys Thr Leu Asn Pro Pro Tyr Lys His Ile



305		310		315		320
Asp Ser Thr Glu Ile Leu Ile Tyr Ser Ser Asn Val Gly Ile Ala Tyr	325		330		335	
Ile Thr Glu Lys Val Ser Asn Glu Tyr Phe Tyr Lys Lys Leu Leu Asp	340		345		350	
Phe Gly Phe Gly Glu Lys Val Gly Val Pro Phe Pro Gly Glu Thr Lys	355		360		365	
Gly Leu Leu Asn His Tyr Ser Lys Trp Ser Gly Arg Ser Lys Ala Thr	370		375		380	
Ile Gly Phe Gly Gln Glu Ile Gly Val Ser Ala Val Gln Ile Leu Gln	385		390		395	400
Ala Ala Ser Ile Leu Ser Asn Asn Gly Ile Met Leu Lys Pro Arg Ile	405		410		415	
Ile Lys Lys Ile Ser Asn Asp Lys Gly Glu Asn Ile Lys Glu Phe Asp	420		425		430	
Lys Glu Glu Ile Arg Lys Val Ile Ser Lys Asn Ser Ala Gln Lys Val	435		440		445	
Leu Lys Met Met Arg Glu Val Val Asn Lys Gly Gly Ile Pro Asn Leu	450		455		460	
Lys Ile Lys Asn Leu Asp Ile Ser Ala Lys Ser Gly Thr Ser Gln Ala	465		470		475	480
Ile Asp Arg Lys Thr Gly Lys Tyr Ser Glu Glu Asp Tyr Thr Ser Ser	485		490		495	
Ile Leu Ala Ile Tyr Pro Thr Glu Gln Pro Lys Tyr Ile Ile Tyr Ile	500		505		510	
Val Tyr Arg Tyr Pro Lys Lys Ile Ile Tyr Gly Thr Arg Ile Ala Ala	515		520		525	
Pro Met Ala Lys Glu Ile Ile Glu Phe Ile Glu His Gln Gln Asn Thr	530		535		540	
Ile Ala Tyr Lys Lys Ile Lys Met Pro Ser Lys Ile Lys Ile Pro Lys	545		550		555	560
Ala Glu Thr Asn Tyr Lys Asn Lys Thr Tyr Leu Pro Asn Phe Ile Asn	565		570		575	
Leu Ser Lys Arg Glu Ala Ile Asp Ile Leu Lys Tyr Tyr Lys Asn Thr	580		585		590	
Met Lys Ile Lys Ile Asn Gly Asp Gly Phe Val Tyr Lys Gln Ser Ile	595		600		605	
Ser Pro Asn Thr Lys Leu Glu Asp Ile Thr Glu Leu Glu Leu Tyr Leu	610		615		620	

Lys  
625

<210> 373

<211> 594

<212> PRT

<213> Homo sapiens

<400> 373

Phe Asn Asn Ser Pro Asp Asn Thr Ile Ser Leu Lys Ser Asn Asp Ile  
1 5 10 15

Ala Lys Arg Gly Thr Ile Tyr Asp Arg Asn Gly Lys Pro Ile Ala Phe  
20 25 30

Ser Ser Lys Ser Tyr Ser Ile Gly Thr Asn Pro Gln Lys Ile Glu Asn  
35 40 45

Ile Val Ser Thr Ser Glu Thr Leu Gly Ala Ile Leu Gln Ile Asn Ser  
50 55 60

Arg Ile Leu Lys Glu Lys Leu Ser Ser Asn Lys Gly Phe Leu Tyr Ile  
65 70 75 80

Lys Arg Lys Ile Lys Arg Glu Glu Ser Asp Leu Ile Lys Arg Ile Gln  
85 90 95

Ala Glu Gly Arg Leu Ser Asn Ile Thr Leu Tyr Pro Asp Tyr Thr Arg  
100 105 110

Ile Tyr Pro Phe Arg Asn Thr Thr Ser Asn Ile Thr Gly Phe Val Gly  
115 120 125

Thr Asp Asn Leu Gly Leu Glu Gly Ile Glu Phe Ser Leu Asn Ser Ile  
130 135 140

Leu Gly Lys Asp Lys Thr Lys Gln Gln Phe Leu Asn Glu Glu Pro Glu  
145 150 155 160

Thr Asn Asn Ile His Leu Thr Ile Asp Met Asp Ile Gln Gln Gly Val  
165 170 175

Ser Lys Ile Ala Lys Lys Tyr Phe Lys Glu Asn Asn Pro Glu Ser Leu  
180 185 190

Ile Thr Leu Val Met Asn Ser Gln Asn Gly Glu Ile Leu Ser Met Val  
195 200 205

Gln Phe Pro Gln Tyr Asp Ala Asn Phe Tyr Ser Lys Tyr Pro Glu Glu  
210 215 220

Ile Arg Lys Asn Leu Ser Ser Ser Leu Thr Tyr Glu Pro Gly Ser Ile  
225 230 235 240

Asn Lys Ile Phe Thr Val Ala Ile Ile Leu Glu Ser Gly Lys Leu Asn  
245 250 255

Leu Glu Glu Lys Phe Leu Asp Asn Gly Ile Tyr Gln Lys Gln Phe Pro  
 260 265 270  
 Ser Gly Glu Lys Ile Thr Ile Lys Thr Leu Asn Pro Pro Tyr Lys His  
 275 280 285  
 Ile Asp Ser Thr Glu Ile Leu Ile Tyr Ser Ser Asn Val Gly Ile Ala  
 290 295 300  
 Tyr Ile Thr Glu Lys Val Ser Asn Glu Tyr Phe Tyr Lys Lys Leu Leu  
 305 310 315 320  
 Asp Phe Gly Phe Gly Glu Lys Val Gly Val Pro Phe Pro Gly Glu Thr  
 325 330 335  
 Lys Gly Leu Leu Asn His Tyr Ser Lys Trp Ser Gly Arg Ser Lys Ala  
 340 345 350  
 Thr Ile Gly Phe Gly Gln Glu Ile Gly Val Ser Ala Val Gln Ile Leu  
 355 360 365  
 Gln Ala Ala Ser Ile Leu Ser Asn Asn Gly Ile Met Leu Lys Pro Arg  
 370 375 380  
 Ile Ile Lys Lys Ile Ser Asn Asp Lys Gly Glu Asn Ile Lys Glu Phe  
 385 390 395 400  
 Asp Lys Glu Glu Ile Arg Lys Val Ile Ser Lys Asn Ser Ala Gln Lys  
 405 410 415  
 Val Leu Lys Met Met Arg Glu Val Val Asn Lys Gly Gly Ile Pro Asn  
 420 425 430  
 Leu Lys Ile Lys Asn Leu Asp Ile Ser Ala Lys Ser Gly Thr Ser Gln  
 435 440 445  
 Ala Ile Asp Arg Lys Thr Gly Lys Tyr Ser Glu Glu Asp Tyr Thr Ser  
 450 455 460  
 Ser Ile Leu Ala Ile Tyr Pro Thr Glu Gln Pro Lys Tyr Ile Ile Tyr  
 465 470 475 480  
 Ile Val Tyr Arg Tyr Pro Lys Lys Ile Ile Tyr Gly Thr Arg Ile Ala  
 485 490 495  
 Ala Pro Met Ala Lys Glu Ile Ile Glu Phe Ile Glu His Gln Gln Asn  
 500 505 510  
 Thr Ile Ala Tyr Lys Lys Ile Lys Met Pro Ser Lys Ile Lys Ile Pro  
 515 520 525  
 Lys Ala Glu Thr Asn Tyr Lys Asn Lys Thr Tyr Leu Pro Asn Phe Ile  
 530 535 540  
 Asn Leu Ser Lys Arg Glu Ala Ile Asp Ile Leu Lys Tyr Tyr Lys Asn  
 545 550 555 560  
 Thr Met Lys Ile Lys Ile Asn Gly Asp Gly Phe Val Tyr Lys Gln Ser

565

570

575

Ile Ser Pro Asn Thr Lys Leu Glu Asp Ile Thr Glu Leu Glu Leu Tyr  
 580 585 590

Leu Lys

&lt;210&gt; 374

&lt;211&gt; 1878

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 374

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aagctttcct ctaacaaagg gtttttatat ataaaaagaa aaataaaaaag agaagaatca 360
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gaactgtatt taaaataa

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&lt;210&gt; 375

&lt;211&gt; 1785

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 375

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ttcaataaca gccagacaa cacaatatct ttaaagtcaa atgatattgc caaaagagga 60
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acaaatcctc aaaaaataga aaatattgta agcacatctg aaactcttgg tgcaatactt 180
caaattaatt caagaatttt aaaggaaaag ctttctctta acaaagggtt tttatatata 240
aaaagaaaaa taaaagaga agaatcagat ttaataaaaa gaattcaagc tgaaggcagg 300

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ctttcaaaca tcactttata tcctgattac acaagaattt atcccttcag gaataccaca 360
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ctaaatagca tattaggaaa agataaaacc aagcaacaat ttttaaataa ggagccagaa 480
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aatggagaaa tattatccat gggtcaattt cctcaatatg atgcaaactt ttattctaaa 660
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acaaaattag aagatataac agagcttgaa ctgtatttaa aataa 1785

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&lt;210&gt; 376

&lt;211&gt; 203

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 376

```

Met Ala Lys Asn Asn Leu Leu Val Phe Phe Ile Ala Ile Ile Phe Val
  1          5          10          15
Phe Val Ser Ile Ile Val Val Phe Tyr Asn Ser Leu Gly Lys Asp Tyr
  20          25          30
Val Lys Ser Gly Gly Glu Ile Val Glu Asn Leu Glu Lys Asp Leu Asn
  35          40          45
Asp Tyr Leu Lys Glu Asn Asp Ala Lys Glu Arg Glu Lys Ile Phe Leu
  50          55          60
Arg Ile Arg Glu Leu Ile Ser Lys Glu Lys Glu Ile Ser Ser Tyr Phe
  65          70          75          80
Ile Ser Arg Phe Tyr Leu Ala Arg Ala Val Tyr Phe Gln Ser Gln Ala
  85          90          95
Gln Tyr Asp Glu Ala Ile Lys Asp Leu Asp Ile Val Ile Lys Ala Lys
 100          105          110
Gly Ile Glu Ser Glu Ile Ala Phe Leu Asn Lys Ala Ala Val Tyr Glu
 115          120          125
Lys Met Gly Leu Lys Glu Asp Ala Leu Leu Val Tyr Glu Asp Leu Ile
 130          135          140

```

Asn Ser Thr Ser Leu Asp Phe Leu Lys Val Arg Ala Leu Leu Ser Lys  
 145 150 155 160

Ala Ile Leu Ile Glu Glu Lys Asp Lys Glu Leu Ala Val Lys Val Tyr  
 165 170 175

Glu Glu Ile Val Lys Phe Pro Tyr Glu Asn Asn Leu Tyr Ile Asn Met  
 180 185 190

Ala Asn Asn Lys Ile Leu Glu Leu Lys Gln Asn  
 195 200

<210> 377

<211> 179

<212> PRT

<213> Homo sapiens

<400> 377

Tyr Asn Ser Leu Gly Lys Asp Tyr Val Lys Ser Gly Gly Glu Ile Val  
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Glu Asn Leu Glu Lys Asp Leu Asn Asp Tyr Leu Lys Glu Asn Asp Ala  
 20 25 30

Lys Glu Arg Glu Lys Ile Phe Leu Arg Ile Arg Glu Leu Ile Ser Lys  
 35 40 45

Glu Lys Glu Ile Ser Ser Tyr Phe Ile Ser Arg Phe Tyr Leu Ala Arg  
 50 55 60

Ala Val Tyr Phe Gln Ser Gln Ala Gln Tyr Asp Glu Ala Ile Lys Asp  
 65 70 75 80

Leu Asp Ile Val Ile Lys Ala Lys Gly Ile Glu Ser Glu Ile Ala Phe  
 85 90 95

Leu Asn Lys Ala Ala Val Tyr Glu Lys Met Gly Leu Lys Glu Asp Ala  
 100 105 110

Leu Leu Val Tyr Glu Asp Leu Ile Asn Ser Thr Ser Leu Asp Phe Leu  
 115 120 125

Lys Val Arg Ala Leu Leu Ser Lys Ala Ile Leu Ile Glu Glu Lys Asp  
 130 135 140

Lys Glu Leu Ala Val Lys Val Tyr Glu Glu Ile Val Lys Phe Pro Tyr  
 145 150 155 160

Glu Asn Asn Leu Tyr Ile Asn Met Ala Asn Asn Lys Ile Leu Glu Leu  
 165 170 175

Lys Gln Asn

<210> 378

<211> 612

<212> DNA

<213> Homo sapiens

<400> 378

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gaaaatcttg aaaaagattt aaatgattat ttaaaagaaa atgatgccaa agagagagaa 180
aaaatatttc ttaggataag ggagcttatt tcaaaggaaa aagaaatttc atcttatttt 240
atttcaaggt tctatttagc cagagctgtt tttttccaaa gtcaagcaca gtatgatgag 300
gctattaaaag atttagatat tgttattaag gcaaaaggta ttgaaagtga aattgctttt 360
cttaataaag ctgcagttaa tgaaaaaatg ggattaaaag aagatgcttt gttagtttat 420
gaagatctta tcaatagtac tagtttggat tttttaaagg taagagctct tttgagtaag 480
gcaatattga ttgaggaaaa agataaagag cttgctgtga aagtatacga agagattggt 540
aagtttccgt atgaaaataa tttatatata aatatggcaa ataataaaat tttagaactt 600
aagcaaaatt aa 612

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<210> 379

<211> 540

<212> DNA

<213> Homo sapiens

<400> 379

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aggataaggg agcttatctt aaaggaaaaa gaaatttcat cttattttat ttcaagggtc 180
tatttagcca gagctgttta tttccaaagt caagcacagt atgatgaggc tattaagat 240
ttagatattg ttattaaggc aaaagggtatt gaaagtgaat ttgcttttct taataaagct 300
gcagtttatg aaaaaatggg attaaaagaa gatgctttgt tagtttatga agatcttatt 360
aatagtacta gtttggattt tttaaaggta agagctcttt tgagtaaggc aatattgatt 420
gaggaaaaag ataaagagct tgctgtgaaa gtatacgaag agattgttaa gtttccgtat 480
gaaaataatt tatatatata tatggcaaat aataaaatt tagaacttaa gcaaaattaa 540

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<210> 380

<211> 504

<212> PRT

<213> Homo sapiens

<400> 380

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Met Lys Ala Ile Gly Asn Ala Ile Leu Leu Asn Met Pro Leu Ile Phe
  1              5              10              15

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Ser Ile Gly Ile Ser Ile Gly Val Ala Arg Met Gly Gln Gly Thr Ala
      20              25              30

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Ala Leu Gly Gly Leu Ile Gly Tyr Leu Thr Phe Asn Ile Thr Glu Asn
  35              40              45

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Tyr Phe Ile Glu Ala Phe Ser Gly Leu Val Glu Ala Glu Thr Met Ser
  50              55              60

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Ser Val Gly Arg Ile Asn Phe Phe Gly Val Gln Thr Leu Asn Thr Gly
  65              70              75              80

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Ile Ala Gly Ser Leu Ala Val Gly Leu Leu Val Gly Tyr Leu His Asn
      85              90              95

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Lys Phe Tyr Asn Met Lys Leu Pro Lys Pro Phe Val Phe Phe Ser Glu
 100              105              110

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Cys His Phe Val Pro Ile Val Ile Ile Leu Pro Phe Cys Val Phe Leu  
 115 120 125  
 Ala Ile Phe Phe Cys Leu Ile Trp Ser Ser Phe Asp Asp Leu Ile Ala  
 130 135 140  
 Ser Leu Gly Leu Phe Val Phe Arg Phe Glu Tyr Phe Gly Ser Phe Leu  
 145 150 155 160  
 Tyr Gly Phe Leu Asn Arg Leu Leu Leu Pro Leu Gly Leu His Ser Ile  
 165 170 175  
 Leu Ser Phe Pro Phe Glu Phe Thr Ser Leu Gly Gly Val Glu Ile Val  
 180 185 190  
 Asn Gly Asp Thr Val Arg Gly Leu Lys Asn Ile Phe Tyr Ala Gln Leu  
 195 200 205  
 Leu Asp Pro Ser Leu Gly Lys Phe Ser Ser Gly Phe Ala Lys Ile Ser  
 210 215 220  
 Ser Gly Phe Tyr Leu Ser Ile Met Phe Gly Leu Pro Gly Ala Ala Leu  
 225 230 235 240  
 Gly Val Tyr Lys Gly Ile Val His Glu Asp Lys Asn Lys Val Ala Ala  
 245 250 255  
 Leu Leu Phe Ser Gly Ala Leu Thr Ala Phe Leu Thr Gly Ile Thr Glu  
 260 265 270  
 Pro Leu Glu Phe Leu Phe Ile Phe Thr Ala Pro Leu Leu Tyr Phe Val  
 275 280 285  
 His Ala Ala Tyr Ser Gly Phe Ala Leu Leu Leu Ala Asn Phe Phe Asn  
 290 295 300  
 Val Thr Ile Gly Asn Ser Phe Ser Thr Gly Phe Leu Asp Phe Phe Met  
 305 310 315 320  
 Phe Gly Ile Leu Gln Gly Asn Ser Lys Thr Asn Trp Ile Ser Val Leu  
 325 330 335  
 Pro Leu Gly Ala Met Phe Phe Ala Leu Tyr Tyr Phe Thr Phe Ser Trp  
 340 345 350  
 Leu Tyr Arg Tyr Phe Asp Phe Gln Ile Phe Val Thr Asp Asp Pro Phe  
 355 360 365  
 Phe Glu Gly Gln Glu Gly Lys Leu Glu Ser Leu Gly Ile Ala His Leu  
 370 375 380  
 Leu Ile Gln Gly Leu Gly Gly Phe Asp Asn Ile Thr Lys Leu Asp Val  
 385 390 395 400  
 Cys Ser Thr Arg Leu His Val Asp Val Val Asn Thr Glu Leu Val Asp  
 405 410 415  
 Asn Asn Leu Leu Lys Glu Ala Gly Val Leu Lys Ile Gly Leu Val Asn



420                      425                      430  
 Gly Lys Val Gln Leu Phe Tyr Gly Ser Asn Val Tyr Tyr Ile Lys Asn  
                     435                      440                      445  
 Ala Ile Asp Thr Tyr Ser Pro Lys Ser Leu Phe Glu Ala Ser Val Met  
                     450                      455                      460  
 Val Ala Val Asp Asn Val Lys Lys Gly Phe Lys Thr Tyr Ile Glu Met  
                     465                      470                      475                      480  
 Lys Glu Asp Lys Lys Leu Glu Lys Gln Gly Lys Ser Gly Lys Thr Tyr  
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 Lys Leu Ser Glu Leu Glu Glu Asp  
                     500  
  
 <210> 381  
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 <212> PRT  
 <213> Homo sapiens  
  
 <400> 381  
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                     20                      25                      30  
 Val Glu Ala Glu Thr Met Ser Ser Val Gly Arg Ile Asn Phe Phe Gly  
                     35                      40                      45  
 Val Gln Thr Leu Asn Thr Gly Ile Ala Gly Ser Leu Ala Val Gly Leu  
                     50                      55                      60  
 Leu Val Gly Tyr Leu His Asn Lys Phe Tyr Asn Met Lys Leu Pro Lys  
                     65                      70                      75                      80  
 Pro Phe Val Phe Phe Ser Glu Cys His Phe Val Pro Ile Val Ile Ile  
                     85                      90                      95  
 Leu Pro Phe Cys Val Phe Leu Ala Ile Phe Phe Cys Leu Ile Trp Ser  
                     100                      105                      110  
 Ser Phe Asp Asp Leu Ile Ala Ser Leu Gly Leu Phe Val Phe Arg Phe  
                     115                      120                      125  
 Glu Tyr Phe Gly Ser Phe Leu Tyr Gly Phe Leu Asn Arg Leu Leu Leu  
                     130                      135                      140  
 Pro Leu Gly Leu His Ser Ile Leu Ser Phe Pro Phe Glu Phe Thr Ser  
                     145                      150                      155                      160  
 Leu Gly Gly Val Glu Ile Val Asn Gly Asp Thr Val Arg Gly Leu Lys  
                     165                      170                      175  
 Asn Ile Phe Tyr Ala Gln Leu Leu Asp Pro Ser Leu Gly Lys Phe Ser  
                     180                      185                      190

Ser Gly Phe Ala Lys Ile Ser Ser Gly Phe Tyr Leu Ser Ile Met Phe  
 195 200 205  
 Gly Leu Pro Gly Ala Ala Leu Gly Val Tyr Lys Gly Ile Val His Glu  
 210 215 220  
 Asp Lys Asn Lys Val Ala Ala Leu Leu Phe Ser Gly Ala Leu Thr Ala  
 225 230 235 240  
 Phe Leu Thr Gly Ile Thr Glu Pro Leu Glu Phe Leu Phe Ile Phe Thr  
 245 250 255  
 Ala Pro Leu Leu Tyr Phe Val His Ala Ala Tyr Ser Gly Phe Ala Leu  
 260 265 270  
 Leu Leu Ala Asn Phe Phe Asn Val Thr Ile Gly Asn Ser Phe Ser Thr  
 275 280 285  
 Gly Phe Leu Asp Phe Phe Met Phe Gly Ile Leu Gln Gly Asn Ser Lys  
 290 295 300  
 Thr Asn Trp Ile Ser Val Leu Pro Leu Gly Ala Met Phe Phe Ala Leu  
 305 310 315 320  
 Tyr Tyr Phe Thr Phe Ser Trp Leu Tyr Arg Tyr Phe Asp Phe Gln Ile  
 325 330 335  
 Phe Val Thr Asp Asp Pro Phe Phe Glu Gly Gln Glu Gly Lys Leu Glu  
 340 345 350  
 Ser Leu Gly Ile Ala His Leu Leu Ile Gln Gly Leu Gly Gly Phe Asp  
 355 360 365  
 Asn Ile Thr Lys Leu Asp Val Cys Ser Thr Arg Leu His Val Asp Val  
 370 375 380  
 Val Asn Thr Glu Leu Val Asp Asn Asn Leu Leu Lys Glu Ala Gly Val  
 385 390 395 400  
 Leu Lys Ile Gly Leu Val Asn Gly Lys Val Gln Leu Phe Tyr Gly Ser  
 405 410 415  
 Asn Val Tyr Tyr Ile Lys Asn Ala Ile Asp Thr Tyr Ser Pro Lys Ser  
 420 425 430  
 Leu Phe Glu Ala Ser Val Met Val Ala Val Asp Asn Val Lys Lys Gly  
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 Phe Lys Thr Tyr Ile Glu Met Lys Glu Asp Lys Lys Leu Glu Lys Gln  
 450 455 460  
 Gly Lys Ser Gly Lys Thr Tyr Lys Leu Ser Glu Leu Glu Glu Asp  
 465 470 475

<210> 382  
 <211> 1515  
 <212> DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 382

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ttaacattta atattactga aaattatttt attgaggcct ttccagggct tgttgaagca 180
gagacaatgt cttctgttgg gcgtataaat ttttttgggtg ttcaaaacttt aaatacggga 240
attgcagggt ctttagcggg aggcctttta gtggatatt tgcataacaa attttataat 300
atgaagctac ccaaaccctt tgtgtttttt tcagagtgcc attttgtgcc tatagtaata 360
attttaccct tttgtgtttt tttggctata tttttttgtt tgatttggtc aagttttgac 420
gatttaattg catctttagg tttgtttgtt tttaggtttg aatatttttg cagttttctt 480
tatggatttt taaataggct tttattgcct ttgggggttg attctatttt atcttttctt 540
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aagaatatat tttatgctca gctattagac ccactacttg gtaaattttc atcaggcttt 660
gccaaaatta gcagtggatt ttatctatct attatgtttg gactgcccgg agcagcatta 720
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aattttttta atgttacgat tggcaatagc ttttctactg gatttttggg ttttttatg 960
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aaagaagaca aaaaacttga aaagcaaggt aaatcaggaa aaacctataa gcttagcgaa 1500
ttagaagaag attag                                     1515

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&lt;210&gt; 383

&lt;211&gt; 1440

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 383

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agaatggggc agggaaacagc ggctttggga ggccttattg gttattttaac atttaaatatt 60
actgaaaatt attttattga ggctttttca gggcttggtg aagcagagac aatgtcttct 120
gttgggcgta taaatttttt tgggtgttcaa actttaaata cggaattgc aggttcttta 180
gcggtaggcc ttttagttgg atattttgcat aacaaaattt ataatatgaa gctaccctaa 240
ccttttgtgt ttttttcaga gtgccatttt gtgcctatag taataatttt acccttttgt 300
gttttttttg ctataatttt ttgtttgatt tggccaagtt ttgacgattt aattgcatct 360
ttaggtttgt ttgtttttag gtttgaatat tttggcagtt ttctttatgg atttttaaat 420
aggtttttat tgcctttggg gttgcattct attttatctt ttcttttga gtttacttct 480
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gctcagctat tagaccatc acttggtaaa ttttcatcag gctttgccaa aattagcagt 600
ggatttttatc tatctattat gtttggactg cccggagcag cattaggggt ttacaagggt 660
attgttcatg aagataaaaa taagggttgca gcacttcttt tctctggggc cttgacagct 720
tttttaacag gaataactga gccttttagaa tttttattta ttttcacagc gcctttgctt 780
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cttaaaaatg ggcttggtta tggcaagggt cagctttttt atggatctaa tgtttattat 1260
attaaaaatg ccattgatac ctattctcca aagagtcctt ttgaagctag tgttatgggt 1320

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gcagttgata atgtaaaaaa aggttttaaa acttatattg aaatgaaaga agacaaaaaa 1380  
 cttgaaaagc aaggtaaatac aggaaaaaacc tataagctta gcgaattaga agaagattag 1440

<210> 384

<211> 454

<212> PRT

<213> Homo sapiens

<400> 384

Met Arg Phe Lys Lys Ile Phe Leu Ile Ile Phe Ile Ile Ser Asn Leu  
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Lys Val Tyr Ser Tyr Asn Tyr Ala Ile Gln Tyr Lys Asn Glu Gly Ile  
 20 25 30

Asp Lys Tyr Tyr Phe Glu Ile Leu Asn Asp Gly Phe Gly Phe Ser Leu  
 35 40 45

Ser Asp Phe Phe Asp Asp Leu Arg Ser Gly Ser Leu Ile Phe Thr Tyr  
 50 55 60

Val Ser Lys Tyr Asn Phe Ile Ile Asn Leu Glu Ala His Met Leu Thr  
 65 70 75 80

Tyr Arg Gly Tyr Lys Asp Ser Pro Lys Ser Leu Ile Ser Arg Thr Asp  
 85 90 95

Leu Ile Glu Ile Gly Phe Met Tyr Tyr Phe Pro Ile Leu Leu Leu Ile  
 100 105 110

Asn Gly Lys Asn Phe Gly Glu Ile Asp Leu Gly Ile Gly Val Lys Asn  
 115 120 125

Leu Leu Phe Gly Asp Trp Gly Gly His Leu Met Gln Ser Ile Ile His  
 130 135 140

Leu Ile Leu Asn Gln His Arg Pro Ile Pro Ser Ile Lys Ser Tyr Asp  
 145 150 155 160

Ser Tyr Asn Tyr Arg Gly Phe Leu Ser Phe Ala Leu Asn Tyr Ser Tyr  
 165 170 175

Met Asn Phe Leu Asn Leu Glu Asn Tyr Met Asp Leu Ser Tyr Phe Ala  
 180 185 190

Asp Tyr Phe Ile Lys Asn Ser Ile Gly Ile Thr Leu Lys Asn Glu Asn  
 195 200 205

Ile Gly Phe Asp Ile Lys Leu Tyr Ser Gln Ile Gln Asn Gln Ile Lys  
 210 215 220

Ser Leu Lys Thr Tyr Ser Lys Thr Gln Glu Ala Glu Thr Gly Ile Gly  
 225 230 235 240

Ile Asn Tyr Gln Phe Tyr Ser Lys Asn Phe Phe Ile Thr Asn Asn Leu  
 245 250 255

Asn Ile Lys Asn Phe Ser Thr Lys Glu Asn Phe Leu Ser Val Gly Gly

260					265					270					
Phe	Gly	Ile	Ile	Ile	Thr	Pro	Glu	Glu	Tyr	Lys	Lys	Ile	Ser	Glu	Ser
		275					280					285			
Asn	Asn	Glu	Phe	Asn	Val	Ile	Ser	Asn	Asn	Phe	Tyr	Phe	Gly	Phe	Asp
		290				295					300				
Ile	Met	Ile	Pro	Leu	Lys	Ile	Arg	Asn	Ser	Leu	Phe	Tyr	Lys	Ile	Asn
	305					310					315				320
Glu	Asn	Ile	Asn	His	Tyr	Phe	Ser	Ile	Ser	Thr	Asn	Tyr	Tyr	Thr	Asn
				325					330					335	
Tyr	Asn	Glu	Thr	Asn	Ser	Phe	Thr	Asn	Gln	Leu	Ser	Ser	Gly	Ile	Met
			340					345					350		
Tyr	Glu	Phe	Leu	Pro	Gln	Lys	Thr	Phe	Asn	Pro	Tyr	Leu	Ile	Ser	Gly
		355					360					365			
Leu	Phe	Phe	Ala	Tyr	Asn	Gln	Asn	Asn	Lys	Asp	Ile	Lys	Ser	Ile	Ser
		370				375					380				
Arg	Pro	Ile	Arg	Ile	Lys	Asn	Ile	Leu	Gln	Val	Gly	Ile	Glu	Asn	Glu
					390					395					400
Leu	Gly	Phe	Leu	Phe	Lys	Met	Leu	Lys	Tyr	Arg	Asn	Thr	Glu	Tyr	Ile
				405					410					415	
Phe	Lys	Ile	Tyr	Ser	Lys	Val	Asn	Tyr	Ile	Pro	Ile	Ala	Tyr	Asn	Leu
			420					425					430		
Asp	Glu	Lys	Lys	Leu	Glu	Lys	His	Ser	Ile	Asn	Phe	Asn	Tyr	Leu	Gly
		435					440					445			
Ile	Gly	Ile	Val	Val	Lys										
		450													
<210> 385															
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<212> PRT															
<213> Homo sapiens															
<400> 385															
Tyr	Ser	Tyr	Asn	Tyr	Ala	Ile	Gln	Tyr	Lys	Asn	Glu	Gly	Ile	Asp	Lys
	1					5			10					15	
Tyr	Tyr	Phe	Glu	Ile	Leu	Asn	Asp	Gly	Phe	Gly	Phe	Ser	Leu	Ser	Asp
			20					25					30		
Phe	Phe	Asp	Asp	Leu	Arg	Ser	Gly	Ser	Leu	Ile	Phe	Thr	Tyr	Val	Ser
		35					40					45			
Lys	Tyr	Asn	Phe	Ile	Ile	Asn	Leu	Glu	Ala	His	Met	Leu	Thr	Tyr	Arg
		50				55					60				
Gly	Tyr	Lys	Asp	Ser	Pro	Lys	Ser	Leu	Ile	Ser	Arg	Thr	Asp	Leu	Ile
		65				70					75				80

Glu Ile Gly Phe Met Tyr Tyr Phe Pro Ile Leu Leu Leu Ile Asn Gly  
                                   85                                  90                                  95  
 Lys Asn Phe Gly Glu Ile Asp Leu Gly Ile Gly Val Lys Asn Leu Leu  
                                   100                                  105                                  110  
 Phe Gly Asp Trp Gly Gly His Leu Met Gln Ser Ile Ile His Leu Ile  
                                   115                                  120                                  125  
 Leu Asn Gln His Arg Pro Ile Pro Ser Ile Lys Ser Tyr Asp Ser Tyr  
                                   130                                  135                                  140  
 Asn Tyr Arg Gly Phe Leu Ser Phe Ala Leu Asn Tyr Ser Tyr Met Asn  
                                   145                                  150                                  155                                  160  
 Phe Leu Asn Leu Glu Asn Tyr Met Asp Leu Ser Tyr Phe Ala Asp Tyr  
                                   165                                  170                                  175  
 Phe Ile Lys Asn Ser Ile Gly Ile Thr Leu Lys Asn Glu Asn Ile Gly  
                                   180                                  185                                  190  
 Phe Asp Ile Lys Leu Tyr Ser Gln Ile Gln Asn Gln Ile Lys Ser Leu  
                                   195                                  200                                  205  
 Lys Thr Tyr Ser Lys Thr Gln Glu Ala Glu Thr Gly Ile Gly Ile Asn  
                                   210                                  215                                  220  
 Tyr Gln Phe Tyr Ser Lys Asn Phe Phe Ile Thr Asn Asn Leu Asn Ile  
                                   225                                  230                                  235                                  240  
 Lys Asn Phe Ser Thr Lys Glu Asn Phe Leu Ser Val Gly Gly Phe Gly  
                                   245                                  250                                  255  
 Ile Ile Ile Thr Pro Glu Glu Tyr Lys Lys Ile Ser Glu Ser Asn Asn  
                                   260                                  265                                  270  
 Glu Phe Asn Val Ile Ser Asn Asn Phe Tyr Phe Gly Phe Asp Ile Met  
                                   275                                  280                                  285  
 Ile Pro Leu Lys Ile Arg Asn Ser Leu Phe Tyr Lys Ile Asn Glu Asn  
                                   290                                  295                                  300  
 Ile Asn His Tyr Phe Ser Ile Ser Thr Asn Tyr Tyr Thr Asn Tyr Asn  
                                   305                                  310                                  315                                  320  
 Glu Thr Asn Ser Phe Thr Asn Gln Leu Ser Ser Gly Ile Met Tyr Glu  
                                   325                                  330                                  335  
 Phe Leu Pro Gln Lys Thr Phe Asn Pro Tyr Leu Ile Ser Gly Leu Phe  
                                   340                                  345                                  350  
 Phe Ala Tyr Asn Gln Asn Asn Lys Asp Ile Lys Ser Ile Ser Arg Pro  
                                   355                                  360                                  365  
 Ile Arg Ile Lys Asn Ile Leu Gln Val Gly Ile Glu Asn Glu Leu Gly  
                                   370                                  375                                  380

Phe Leu Phe Lys Met Leu Lys Tyr Arg Asn Thr Glu Tyr Ile Phe Lys  
385 390 395 400

Ile Tyr Ser Lys Val Asn Tyr Ile Pro Ile Ala Tyr Asn Leu Asp Glu  
405 410 415

Lys Lys Leu Glu Lys His Ser Ile Asn Phe Asn Tyr Leu Gly Ile Gly  
420 425 430

Ile Val Val Lys  
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<210> 386

<211> 1365

<212> DNA

<213> Homo sapiens

<400> 386

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aatgatggat tcggattttc attaagcgat ttttttgatg acttgagaag tggttctctt 180
atTTTTacct atgtttcaaa atacaatttt ataataaatt tagaagcaca catgttaacc 240
tatagggggt ataaagactc tccgaaatct ttaattagta gaacagactt aattgaaata 300
ggcttcatgt actattttcc aattttattg ctaattaatg gaaaaaattt tggagaaata 360
gacttgggaa ttggagttaa aaacttatta tttggagact ggggagggca tttaatgcaa 420
agcataattc acctcatttt aaatcaacac cgtccaattc caagtataaa aagctacgac 480
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aatTTtagaaa attatatgga cttatcttat tttgcagatt attttattaa aaacagtatt 600
ggaattacct taaaaaatga aaatattgga ttgatataa aactttattc ccaaattcaa 660
aatcaaatca aaagcctcaa aacatattca aaaacacaag aagcagaaac aggaattgga 720
ataaattatc aattttactc taaaaatttt ttcataacca ataattttaa cattaaaaat 780
ttttcaacca aagaaaattt cttaagcggt gggggatttg gaataatcat tacacctgaa 840
gaatacaaaa aaatatcaga atcaaaataat gaatttaatg ttataagtaa taattttttac 900
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gaaaacatca accattactt ttcaatatca acaaattatt acactaatta taatgaaact 1020
aatagcttta caaatcaatt atcatcaggc atcatgtatg aattttttacc acaaaaaaca 1080
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aaaagcatct caagaccaat aagaataaaa aacattcttc aagttggaat tgaaaatgaa 1200
ttaggatttt tgttcaaaat gctaaaatac cgcaacactg agtatatttt caaaatatat 1260
tcaaaagtta actatattcc tatagcttat aacttagatg aaaaaaatt agaaaaacat 1320
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<210> 387

<211> 1311

<212> DNA

<213> Homo sapiens

<400> 387

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tctcttattt ttacctatgt ttcaaaatac aattttataa taaatttaga agcacacatg 180
ttaacctata ggggttataa agactctccg aaatctttaa ttagtagaac agacttaatt 240
gaaataggct tcatgtacta tttccaatt ttattgctaa ttaatggaaa aaattttgga 300
gaaatagact tgggaattgg agttaaaaac ttattatttg gagactgggg agggcattta 360
atgcaaagca taattcacct cattttaaat caacaccgtc caattccaag tataaaaagc 420
tacgacagct acaattatag aggattttta agctttgctc taaattactc ttacatgaat 480
ttttttaaatt tagaaaatta tatggactta tcttattttg cagattattt tattaanaac 540
agtattggaa ttaccttaaa aaatgaaaat attggatttg atataaaact ttattcccaa 600
```

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attcaaaatc aaatcaaaag cctcaaaaaca tattcaaaaa cacaagaagc agaaacagga 660
attggaataa attatcaatt ttactctaaa aattttttca taaccaataa tttaaacatt 720
aaaaatTTTT caaccaaaga aaatttctta agcgttgggg gatttggaat aatcattaca 780
cctgaagaat acaaaaaaat atcagaatca aataatgaat ttaaatgttat aagtaataat 840
ttttactttg gatttgatat tatgatccca ttaaaaaataa gaaattcatt attttataaa 900
ataaatgaaa acatcaacca ttacttttca atatcaacaa attattacac taattataat 960
gaaactaata gctttacaaa tcaattatca tcaggcatca tgtatgaatt tttaccacaa 1020
aaaacattca atccttacct aatttcggga ttattttttg cctataatca aaacaataaa 1080
gatatcaaaa gcatctcaag accaataaga ataaaaaaca ttcttcaagt tggaattgaa 1140
aatgaattag gatttttgtt caaaatgcta aaataccgca acactgagta tattttcaaa 1200
atatattcaa aagttaacta tattcctata gcttataact tagatgaaaa aaaattagaa 1260
aaacattcta ttaactttaa ttatttagga attggaatag tcgttaaata a 1311

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<210> 388

<211> 336

<212> PRT

<213> Homo sapiens

<400> 388

```

Met Lys Ser Phe Leu Phe Trp Val Ile Leu Gly Thr Val Gly Ile Ser
  1             5             10             15

```

```

Ser Phe Ala Gln Asn Thr Pro Val Ala Ile Ile Asn Leu Tyr Lys Asn
      20             25             30

```

```

Glu Ile Ile Thr Lys Thr Gly Phe Asp Ser Lys Val Asp Ile Phe Lys
      35             40             45

```

```

Lys Thr Gln Gly Arg Asp Leu Thr Asp Ala Glu Lys Lys Gln Val Leu
      50             55             60

```

```

Gln Val Leu Ile Ala Asp Val Leu Phe Ser Gln Glu Ala Ser Lys Gln
      65             70             75             80

```

```

Gly Ile Lys Ile Ser Asp Asp Glu Val Met Gln Thr Ile Arg Thr Gln
      85             90             95

```

```

Phe Gly Leu Val Asn Phe Thr Asp Glu Gln Ile Lys Gln Met Ile Glu
      100            105            110

```

```

Lys Gln Gly Thr Asn Trp Gly Glu Leu Leu Ser Ser Met Lys Arg Ser
      115            120            125

```

```

Leu Ser Ser Gln Lys Leu Val Leu Lys Gln Ala Gln Pro Lys Phe Ser
      130            135            140

```

```

Glu Ile Lys Thr Pro Ser Glu Lys Glu Ile Val Glu Tyr Tyr Glu Ala
      145            150            155            160

```

```

Asn Lys Thr Lys Phe Val Asn Pro Asp Ile Ser Arg Val Ser His Ile
      165            170            175

```

```

Phe Phe Ser Thr Lys Asp Lys Lys Arg Ser Asp Val Leu Asp Gln Ala
      180            185            190

```

```

Lys Asn Ile Leu Ser Gln Ile Arg Ser Lys Lys Ile Thr Phe Glu Glu
      195            200            205

```



Ala Val Arg Lys Tyr Ser Asn Asp Glu Ser Ser Lys Ala Lys Asn Gly  
 210 215 220

Asp Leu Gly Phe Leu Ser Arg Gly Asp Gln Asn Ala Gln Asn Leu Leu  
 225 230 235 240

Gly Ala Asp Phe Val Lys Glu Val Phe Asn Phe Asn Lys Gly Asp Ile  
 245 250 255

Ser Ser Pro Ile Ala Ser Lys Glu Gly Phe His Ile Val Lys Val Thr  
 260 265 270

Glu Lys Tyr Ala Gln Arg Phe Leu Gly Leu Asn Asp Lys Val Ser Pro  
 275 280 285

Thr Ala Asp Leu Ile Val Lys Asp Ala Ile Arg Asn Asn Met Ile Asn  
 290 295 300

Val Gln Gln Gln Gln Ile Val Val Gln Val Gln Gln Asp Met Tyr Gly  
 305 310 315 320

Lys Leu Asn Lys Ser Ala Asn Ile Gln Ile Leu Asp Ser Ser Leu Lys  
 325 330 335

<210> 389  
 <211> 317  
 <212> PRT  
 <213> Homo sapiens

<400> 389  
 Gln Asn Thr Pro Val Ala Ile Ile Asn Leu Tyr Lys Asn Glu Ile Ile  
 1 5 10 15

Thr Lys Thr Gly Phe Asp Ser Lys Val Asp Ile Phe Lys Lys Thr Gln  
 20 25 30

Gly Arg Asp Leu Thr Asp Ala Glu Lys Lys Gln Val Leu Gln Val Leu  
 35 40 45

Ile Ala Asp Val Leu Phe Ser Gln Glu Ala Ser Lys Gln Gly Ile Lys  
 50 55 60

Ile Ser Asp Asp Glu Val Met Gln Thr Ile Arg Thr Gln Phe Gly Leu  
 65 70 75 80

Val Asn Phe Thr Asp Glu Gln Ile Lys Gln Met Ile Glu Lys Gln Gly  
 85 90 95

Thr Asn Trp Gly Glu Leu Leu Ser Ser Met Lys Arg Ser Leu Ser Ser  
 100 105 110

Gln Lys Leu Val Leu Lys Gln Ala Gln Pro Lys Phe Ser Glu Ile Lys  
 115 120 125

Thr Pro Ser Glu Lys Glu Ile Val Glu Tyr Tyr Glu Ala Asn Lys Thr

130 135 140

Lys Phe Val Asn Pro Asp Ile Ser Arg Val Ser His Ile Phe Phe Ser  
 145 150 155 160

Thr Lys Asp Lys Lys Arg Ser Asp Val Leu Asp Gln Ala Lys Asn Ile  
 165 170 175

Leu Ser Gln Ile Arg Ser Lys Lys Ile Thr Phe Glu Glu Ala Val Arg  
 180 185 190

Lys Tyr Ser Asn Asp Glu Ser Ser Lys Ala Lys Asn Gly Asp Leu Gly  
 195 200 205

Phe Leu Ser Arg Gly Asp Gln Asn Ala Gln Asn Leu Leu Gly Ala Asp  
 210 215 220

Phe Val Lys Glu Val Phe Asn Phe Asn Lys Gly Asp Ile Ser Ser Pro  
 225 230 235 240

Ile Ala Ser Lys Glu Gly Phe His Ile Val Lys Val Thr Glu Lys Tyr  
 245 250 255

Ala Gln Arg Phe Leu Gly Leu Asn Asp Lys Val Ser Pro Thr Ala Asp  
 260 265 270

Leu Ile Val Lys Asp Ala Ile Arg Asn Asn Met Ile Asn Val Gln Gln  
 275 280 285

Gln Gln Ile Val Val Gln Val Gln Gln Asp Met Tyr Gly Lys Leu Asn  
 290 295 300

Lys Ser Ala Asn Ile Gln Ile Leu Asp Ser Ser Leu Lys  
 305 310 315

&lt;210&gt; 390

&lt;211&gt; 1011

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 390

atgaagagtt ttttattttg ggtaatatgt ggaactgtag ggattagctc ttttgctcaa 60  
 aatactcctg ttgctattat taatttatat aagaatgaaa ttattactaa aactggtttt 120  
 gattctaagg ttgatataat taaaaagacc caaggtagag acttaactga tgctgagaaa 180  
 aagcaagttc tgcaagtttt aatagcagat gttcttttta gtcaagaggc ttcaaagcaa 240  
 ggaattaaaa tctcagatga tgagggttatg caaacaatta gaactcaatt tgggcttggtg 300  
 aattttactg atgaacaaat caagcaaatg atagaaaaac aagggtacaaa ttggggcgag 360  
 cttttgtctt caatgaaaag atctctgtct tctcaaaaagc ttgtttttaa gcaagctcag 420  
 cctaagtttt ctgaaattaa aactcctagt gagaaagaaa ttgttgagta ttatgaggct 480  
 aataaaacta agtttgtaaa tcccgatatt tcaagagtta gtcatatctt tttttctact 540  
 aaagataaaa aaagatcaga tgtttttagat caagcaaaaa atattttaag ccaaataaga 600  
 tcaaaaaaaa ttacttttga agaagctgta agaaaatatt caaatgacga atcttctaag 660  
 gctaaaaatg gtgatcttgg gtttttatca agagggtgatc aaaatgctca aaatcttctt 720  
 ggagccgatt ttgtgaaaga ggtttttaat ttaataaagg gtgatataatc ttgcctattt 780  
 gcttcaaagg aagggtttca tattgttaaa gttacagaaa aatatgctca gagattttta 840  
 ggtttgaatg ataaagtgtc tcctactgca gatttgattg tcaaagatgc aataagaaat 900  
 aacatgatta atgttcaaca acagcaaatt gttgttcaag tacagcaaga tatgtatggg 960  
 aagcttaaca agtctgcaaa tatacaaatc ttggattcta gtctaaaata a 1011

<210> 391  
 <211> 954  
 <212> DNA  
 <213> Homo sapiens

<400> 391  
 caaaatactc ctgttgctat tattaattta tataagaatg aaattattac taaaactggt 60  
 tttgattcta aggttgatat atttaaaaag acccaaggta gagacttaac tgatgctgag 120  
 aaaaagcaag ttctgcaagt tttaatagca gatgttcttt ttagtcaaga ggcttcaaag 180  
 caaggaatta aaatctcaga tgatgaggtt atgcaaacaa ttagaactca atttgggctt 240  
 gtgaatttta ctgatgaaca aatcaagcaa atgatagaaa aacaagggtac aaattggggc 300  
 gagcttttgt cttcaatgaa aagatctctg tcttctcaaa agcttgtttt aaagcaagct 360  
 cagcctaagt tttctgaaat taaaactcct agtgagaaaag aaattggtga gtattatgag 420  
 gctaataaaa ctaagtttgt aaatcccgat atttcaagag ttagtcatat ctttttttct 480  
 actaaagata aaaaaagatc agatgtttta gatcaagcaa aaaatatattt aagccaaata 540  
 agatcaaaaa aaattacttt tgaagaagct gtaagaaaat attcaaataga cgaatcttct 600  
 aaggctaaaa atgggtgatct tgggttttta tcaagaggtg atcaaaatgc tcaaaatctt 660  
 cttggagccg attttgtgaa agaggttttt aattttaata aggggtgatat atcttcgcct 720  
 attgcttcaa aggaagggtt tcatattgtt aaagttacag aaaaatatgc tcagagattt 780  
 ttaggtttga atgataaagt gtctcctact gcagatttga ttgtcaaaga tgcaataaga 840  
 aataacatga ttaatgttca acaacagcaa attgtgttgc aagtacagca agatatgtat 900  
 ggtaagctta acaagtctgc aaatatacaa atcttggatt ctagtctaaa ataa 954

<210> 392  
 <211> 173  
 <212> PRT  
 <213> Homo sapiens

<400> 392  
 Met Lys Leu Pro Lys Leu Tyr Lys Leu Ile Leu Leu Phe Leu Phe Thr  
 1 5 10 15  
 Thr Arg Leu Phe Ser Val Lys Asp Glu Lys Ser Asp Asn Lys Leu Glu  
 20 25 30  
 Leu Phe Ser Asn Val Glu Thr Lys Ile Lys Lys Asn Ser Lys Asn Tyr  
 35 40 45  
 Asp Ser Asn Ser Asn Ser Lys Lys Ile Lys Lys Glu Ser Ile Leu Lys  
 50 55 60  
 Arg Asp Thr Asn Ser Glu Lys Asn Ile Asn Ser Asn Ile Tyr Ile Gln  
 65 70 75 80  
 Lys Ser Lys Lys Ile Asn Tyr Pro Asn Arg Asn Leu Gly Asn Asn Ile  
 85 90 95  
 Asn Gln Lys Thr Ala Asn Asp Val Asn Phe Thr Lys Thr Ser Tyr Val  
 100 105 110  
 Lys Val Tyr Pro Asn Tyr Lys Asp Asp Asn Phe Gln Glu Ile Lys Asn  
 115 120 125  
 Ala Asn Lys Phe Pro Ala Lys Thr Glu Lys Thr His Met Leu Ile Gly  
 130 135 140  
 Pro Ile Leu Lys Asp Asn Leu Gly Ile Ile Ile Lys Met Leu Lys Thr

```

<400> 393
Val Lys Asp Glu Lys Ser Asp Asn Lys Leu Glu Leu Phe Ser Asn Val
  1.                5                10                15

Glu Thr Lys Ile Lys Lys Asn Ser Lys Asn Tyr Asp Ser Asn Ser Asn
      20                25                30

Ser Lys Lys Ile Lys Lys Glu Ser Ile Leu Lys Arg Asp Thr Asn Ser
      35                40                45

Glu Lys Asn Ile Asn Ser Asn Ile Tyr Ile Gln Lys Ser Lys Lys Ile
      50                55                60

Asn Tyr Pro Asn Arg Asn Leu Gly Asn Asn Ile Asn Gln Lys Thr Ala
      65                70                75                80

```

```
<210> 394
<211> 522
<212> DNA
<213> Homo sapiens
```

<400> 394						
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tcagtaaaag	atgaaaaatc	agacaataaa	ttggaattat	tttcaaactg	agaacaacaaa	120
atcaaaaaaa	attctaaaaa	ttacgactca	aattcacaac	gcaaaaagat	caaaaaagaa	180
tcaattttta	aaagagatac	aaacagcgaa	aaaaatataa	attccaatat	atacatacaa	240
aatcaaaaa	aaattaatta	ccccaacaga	aatttaggca	ataatatcaa	tcaaaaact	300
gcaaatgatg	taaattttac	aaaaactagt	tatgttaaag	tttatcccaa	ctataaagac	360
gataactttc	aagaaattaa	aaatgctaata	aaatttcacg	ctaaaaccga	aaaaactcac	420
atgctaattcg	gcccaatatt	aaagataaat	ctaggaataa	taattaaaat	gctaaaaaca	480
aagggataca	ctttaataga	atacatagag	gacaataatt	aa		522

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<210> .395
<211> 459
<212> DNA
<213> Homo sapiens
```

<400> 395						
gtaaaaagatg	aaaaatcaga	caataaattg	gaattatttt	caaacgtaga	aacaaaaatc	60
aaaaaaaaatt	ctaaaaatta	cgactcaaat	tcaaacagca	aaaagatcaa	aaaagaatca	120
attttaaaaa	gagatacaaa	cagcgaaaaa	aatataaatt	ccaatatata	catacaaaaa	180
tcaaaaaaaaa	ttaattaccc	caacagaaat	ttaggcaata	atatcaatca	aaaaactgca	240
aatgatgtaa	attttcaaaa	aactagttat	gttaaagttt	atcccaacta	taaagacgat	300
caactttcaag	aaattaaaaa	tgctaataaa	tttccagcta	aaaccgaaaa	aactcacatg	360
ctaactcqqcc	caatatataaa	agataatcta	ggaataataa	ttaaaatgct	aaaaacaaag	420

ggatacactt taatagaata catagaggac aataattaa

459

<210> 396

<211> 261

<212> PRT

<213> Homo sapiens

<400> 396

Met	Lys	Asn	Phe	Lys	Glu	Val	Ile	Ile	Ile	Phe	Asp	Ser	Gly	Ile	Gly	1	5	10	15
Gly	Leu	Ser	Tyr	Phe	Lys	Tyr	Ile	Lys	Ser	Arg	Ile	Gly	Gly	Cys	Gln	20	25	30	
Tyr	Val	Tyr	Val	Ala	Asp	Asn	Lys	Asn	Phe	Pro	Tyr	Gly	Glu	Lys	Ser	35	40	45	
Pro	Glu	Tyr	Leu	Leu	Glu	Ala	Val	Leu	Phe	Leu	Ile	Glu	Lys	Leu	Lys	50	55	60	
Lys	Ile	Tyr	Asn	Ile	Gly	Ala	Leu	Val	Leu	Ala	Cys	Asn	Thr	Ile	Ser	65	70	75	80
Val	Ser	Val	Tyr	Asn	Lys	Leu	Asn	Phe	Val	Phe	Pro	Val	Val	Tyr	Thr	85	90	95	
Leu	Pro	Asp	Val	Ser	Ser	Val	Ser	Asp	Leu	Val	Leu	Lys	Arg	Val	Leu	100	105	110	
Leu	Ile	Ala	Thr	Asn	Thr	Thr	Leu	Glu	Ser	Lys	Phe	Val	Lys	Asp	Gln	115	120	125	
Val	Asn	Ile	His	Asn	Asp	Leu	Ile	Val	Lys	Ala	Ala	Gly	Glu	Leu	Val	130	135	140	
Asn	Phe	Val	Glu	Tyr	Gly	Glu	Asn	Tyr	Lys	Lys	Tyr	Ala	Leu	Arg	Cys	145	150	155	160
Leu	Glu	Ala	Leu	Lys	Phe	Glu	Val	Val	Asn	Thr	Gly	Arg	Glu	Ile	Val	165	170	175	
Phe	Leu	Gly	Cys	Thr	His	Tyr	Leu	His	Leu	Lys	Val	Met	Ile	Glu	Asp	180	185	190	
Phe	Leu	Lys	Ile	Pro	Val	Tyr	Glu	Asn	Arg	Glu	Leu	Val	Val	Lys	Asn	195	200	205	
Leu	Ile	Arg	Ser	Met	Asn	Phe	Ser	Glu	His	Lys	Gly	Asn	Tyr	Tyr	Lys	210	215	220	
Asn	Asp	Phe	Asp	Phe	Val	Asp	Asp	Glu	Phe	Tyr	Leu	Thr	Glu	Asn	Lys	225	230	235	240
Asn	Leu	Thr	Phe	Tyr	Gln	Asn	Phe	Cys	Lys	Lys	Tyr	Asn	Leu	Arg	Phe	245	250	255	
Lys	Gly	Met	Ile	Val	260														

<210> 397  
 <211> 235  
 <212> PRT  
 <213> Homo sapiens

<400> 397  
 Arg Ile Gly Gly Cys Gln Tyr Val Tyr Val Ala Asp Asn Lys Asn Phe  
 1 5 10 15  
 Pro Tyr Gly Glu Lys Ser Pro Glu Tyr Leu Leu Glu Ala Val Leu Phe  
 20 25 30  
 Leu Ile Glu Lys Leu Lys Lys Ile Tyr Asn Ile Gly Ala Leu Val Leu  
 35 40 45  
 Ala Cys Asn Thr Ile Ser Val Ser Val Tyr Asn Lys Leu Asn Phe Val  
 50 55 60  
 Phe Pro Val Val Tyr Thr Leu Pro Asp Val Ser Ser Val Ser Asp Leu  
 65 70 75 80  
 Val Leu Lys Arg Val Leu Leu Ile Ala Thr Asn Thr Thr Leu Glu Ser  
 85 90 95  
 Lys Phe Val Lys Asp Gln Val Asn Ile His Asn Asp Leu Ile Val Lys  
 100 105 110  
 Ala Ala Gly Glu Leu Val Asn Phe Val Glu Tyr Gly Glu Asn Tyr Lys  
 115 120 125  
 Lys Tyr Ala Leu Arg Cys Leu Glu Ala Leu Lys Phe Glu Val Val Asn  
 130 135 140  
 Thr Gly Arg Glu Ile Val Phe Leu Gly Cys Thr His Tyr Leu His Leu  
 145 150 155 160  
 Lys Val Met Ile Glu Asp Phe Leu Lys Ile Pro Val Tyr Glu Asn Arg  
 165 170 175  
 Glu Leu Val Val Lys Asn Leu Ile Arg Ser Met Asn Phe Ser Glu His  
 180 185 190  
 Lys Gly Asn Tyr Tyr Lys Asn Asp Phe Asp Phe Val Asp Asp Glu Phe  
 195 200 205  
 Tyr Leu Thr Glu Asn Lys Asn Leu Thr Phe Tyr Gln Asn Phe Cys Lys  
 210 215 220  
 Lys Tyr Asn Leu Arg Phe Lys Gly Met Ile Val  
 225 230 235

<210> 398  
 <211> 786  
 <212> DNA  
 <213> Homo sapiens

<400> 398

```

atgaaaaaatt tcaaagaagt aataattatt tttgattcag gaataggagg gctttcttat 60
tttaaatata ttaaaagtag aataggggga tgccaatatg tttatgttgc cgataataaa 120
aatttccctt atggagaaaa agtcctgaa tatcttctag aagcagtttt gtttttgatt 180
gagaagctta aaaaaatcta taatattggt gcattagttt tggcttgtaa tacaatttct 240
gttagtgtat acaataaatt aaattttggt tttccagtag tctatacttt gccagatgta 300
agttcagttt cagatcttgt tttaaaaaga gttcttttga ttgcaacaaa tactactctt 360
gaaagcaaatt ttgttaagga tcaagtaa atacataatg atttgattgt aaaagctgct 420
ggagagcttg ttaattttgt tgaatatgga gagaattaca aaaaatatgc tcttagatgt 480
ttagaagctt taaaatttga agttgtaa actggtagag aaattgtttt tcttgatgac 540
acgcattatt tgcattctaa ggtaattgata gaagattttt taaaaattcc tgtttatgag 600
aatcgtgaat tagtggtaaa aaatcttatt agatcaatga atttttctga acacaaagg 660
aattattata agaattgatt tgattttgta gatgatgagt tttatttgac cgaaaaataa 720
aatttgactt tttatcaaaa tttttgcaaa aaatataatc ttcgctttaa gggaatgata 780
gtttga 786

```

&lt;210&gt; 399

&lt;211&gt; 708

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 399

```

agaatagggg gatgccaata tgtttatggt gccgataata aaaatttccc ttatggagaa 60
aaaagtcctg aatatcttct agaagcagtt ttgtttttga ttgagaagct taaaaaaatc 120
tataatattg gtgcattagt tttggcttgt aatacaattt ctggttagtg atacaataaa 180
ttaaattttg tttttccagt agtctatact ttgccagatg taagttcagt ttcagatctt 240
gttttaaaaa gagttctttt gattgcaaca aatactactc ttgaaagcaa atttgtttaag 300
gatcaagtaa atatacataa tgatttgatt gtaaaagctg ctggagagct tgtaattttt 360
gttgaatatg gagagaatta caaaaaatat gctcttagat gtttagaagc tttaaaaattt 420
gaagttgtaa atactggtag agaaattggt tttcttgat gcacgcatta tttgcatctt 480
aaggtaatga tagaagattt tttaaaaatt cctgtttatg agaatcgtga attagtggta 540
aaaaatctta ttagatcaat gaatttttct gaacacaaag gtaattatta taagaatgat 600
tttgattttg tagatgatga gttttatttg accgaaaata aaaatttgac tttttatcaa 660
aatttttgca aaaaatataa tcttcgcttt aagggaatga tagtttga 708

```

&lt;210&gt; 400

&lt;211&gt; 216

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 400

```

Met Ile Arg Leu Lys Val Leu Ile Leu Cys Leu Phe Gly Ile Phe Val
  1             5             10             15

```

```

Leu Asn Gly Phe Ala Asp Thr Asn Phe Glu Phe Asn Phe Gly Gly Gly
      20             25             30

```

```

Val Ala Phe Pro Val Ser Pro Phe Ser Ser Phe Tyr Asn Glu Ala Leu
      35             40             45

```

```

Glu Ile Asn Ala Lys Leu Lys Gln Asn Leu Pro Ser Asp Leu Ser Pro
      50             55             60

```

```

Ile Glu Lys Glu Glu Ile Val Gln Asn Phe Ser Asp Leu Ala Asn Ile
      65             70             75             80

```

```

Ala Lys Ala Gly Ile Arg Tyr Gly Thr Tyr Ala Gln Phe Gly Ala Lys
      85             90             95

```

Phe Asp Asp Phe Val Ser Ile Gly Phe Glu Leu Leu Phe Asn Ile Asn  
 100 105 110  
 Leu Leu Lys Ala Ile Lys Arg Ser Asp Gly Thr Ala Asn Glu Asn Phe  
 115 120 125  
 Ser Phe Ile Met Ala Ile Thr Pro Arg Phe Tyr Thr Lys Leu Asp Phe  
 130 135 140  
 Phe Val Leu Ala Leu Ala Phe Phe Thr Gly Pro Lys Ile Asn Ile Ala  
 145 150 155 160  
 Thr Ser Ser Ala Asp Ser Val Leu Ala Glu Leu Gly Thr Met Gly Trp  
 165 170 175  
 Asp Ile Gly Ala Arg Leu Ser Phe Ser Phe Leu Ile Leu Glu Gly Tyr  
 180 185 190  
 Tyr Val Trp Asn Ile Lys Asn Pro Lys Phe Ser Asp Phe Lys Phe Gly  
 195 200 205  
 Ile Gly Phe Glu Phe Gly Ile Val  
 210 215

<210> 401  
 <211> 195  
 <212> PRT  
 <213> Homo sapiens

<400> 401  
 Asp Thr Asn Phe Glu Phe Asn Phe Gly Gly Gly Val Ala Phe Pro Val  
 1 5 10 15  
 Ser Pro Phe Ser Ser Phe Tyr Asn Glu Ala Leu Glu Ile Asn Ala Lys  
 20 25 30  
 Leu Lys Gln Asn Leu Pro Ser Asp Leu Ser Pro Ile Glu Lys Glu Glu  
 35 40 45  
 Ile Val Gln Asn Phe Ser Asp Leu Ala Asn Ile Ala Lys Ala Gly Ile  
 50 55 60  
 Arg Tyr Gly Thr Tyr Ala Gln Phe Gly Ala Lys Phe Asp Asp Phe Val  
 65 70 75 80  
 Ser Ile Gly Phe Glu Leu Leu Phe Asn Ile Asn Leu Leu Lys Ala Ile  
 85 90 95  
 Lys Arg Ser Asp Gly Thr Ala Asn Glu Asn Phe Ser Phe Ile Met Ala  
 100 105 110  
 Ile Thr Pro Arg Phe Tyr Thr Lys Leu Asp Phe Phe Val Leu Ala Leu  
 115 120 125  
 Ala Phe Phe Thr Gly Pro Lys Ile Asn Ile Ala Thr Ser Ser Ala Asp  
 130 135 140  
 Ser Val Leu Ala Glu Leu Gly Thr Met Gly Trp Asp Ile Gly Ala Arg



```
<210> 402
<211> 651
<212> DNA
<213> Homo sapiens
```

<400>	402						
atgattaggc	ttaaagtttt	aattttgtgt	ttatttggga	tttttgtgtt	aaatggtttt	60	
gcagatacta	attttgaatt	caatttttgg	ggtggggttg	cttttcctgt	tagtcccttt	120	
tcaagctttt	acaatgaggc	tttagagatt	aatgcaaagc	ttaagcaaaa	tttgccctta	180	
gatttatccc	caatagaaaa	agaagagata	gtccaaaatt	tttcgatttt	agccaatttt	240	
gctaaagctg	gaataagata	tggaaacttac	gctcaatttg	gcgctaaatt	tgatgatttt	300	
gtttctattg	gatttgagct	tttgtttaac	attaatcttc	ttaaagcaat	aaagcgttcg	360	
gatggaactg	caaatgaaaa	tttctcgttt	attatggcaa	taacaccaag	attttataca	420	
aaattagatt	tttttgtttt	agcttttagcg	tttttcacag	gtcctaagat	caatatagcg	480	
acttctttct	cggattctgt	tttagcagaa	ctgggaacaa	tgggctggga	tatttggtgct	540	
agacttttcat	tttctttttt	aattcttgaa	gggtactatg	tttggaaatt	taaaaacctt	600	
aaattttctg	atttcaagtt	tqqaataggt	tttgaatttg	gaatttgtga	g	651	

```
<210> 403
<211> 588
<212> DNA
<213> Homo sapiens
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<400> 403							
gatactaatt	ttgaattcaa	ttttgggtggt	gggggttgctt	ttcctgttag	tcctttttca	60	
agctttttaca	atgaggcttt	agagattaat	gcaaagctta	agcaaaattt	gccttcagat	120	
ttatcccca	tagaaaaaga	agagatagtc	caaaatttgc	ccgatttagc	caatattgct	180	
aaagctggaa	taagatatgg	aacttacgct	caatttggcg	ctaaatttga	tgattttggt	240	
tctattggat	ttgagctttt	gtttaacatt	aatcttctta	aagcaataaa	gcgttcggat	300	
ggaactgcaa	atgaaaattt	ctcgtttatt	atggcaataa	caccaagatt	ttatacaaaa	360	
ttagattttt	ttgttttagc	tttagcgttt	ttcacaggtc	ctaagatcaa	tatagcgact	420	
tctttctgcyg	attctgtttt	agcagaactg	ggaacaatgg	gctgggatat	tggtgctaga	480	
ctttctatttt	cttttttaat	ctctgaaggg	tactatgttt	ggaatatata	aaaccctaaa	540	
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<210> 404
<211> 232
<212> PRT
<213> Homo sapiens
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<400> 404
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Phe Leu Ala Lys Val Phe Gly Leu Met Ser Ile Gly Leu Leu Ile Ser
      20                      25                      30

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Ala Val Phe Ala Tyr Ala Thr Ser Glu Asn Gln Thr Ile Lys Ala Ile  
35 40 45

Ile Phe Ser Asn Ser Met Ser Phe Met Ala Met Ile Leu Ile Gln Phe  
50 55 60

Gly Leu Val Tyr Ala Ile Ser Gly Ala Leu Asn Lys Ile Ser Ser Asn  
65 70 75 80

Thr Ala Thr Ala Leu Phe Leu Leu Tyr Ser Ala Leu Thr Gly Val Thr  
85 90 95

Leu Ser Ser Ile Phe Met Ile Tyr Thr Gln Gly Ser Ile Val Phe Thr  
100 105 110

Phe Gly Ile Thr Ala Gly Thr Phe Leu Gly Met Ser Val Tyr Gly Tyr  
115 120 125

Thr Thr Thr Thr Asp Leu Thr Lys Met Gly Ser Tyr Leu Ile Met Gly  
130 135 140

Leu Trp Gly Ile Ile Ile Ala Ser Leu Val Asn Met Phe Phe Arg Ser  
145 150 155 160

Ser Gly Leu Asn Phe Leu Ile Ser Ile Leu Gly Val Val Ile Phe Thr  
165 170 175

Gly Leu Thr Ala Tyr Asp Val Gln Asn Ile Ser Lys Met Asp Lys Met  
180 185 190

Leu Gln Asp Asp Thr Glu Ile Lys Asn Arg Met Ala Val Val Ala Ser  
195 200 205

Leu Lys Leu Tyr Leu Asp Phe Ile Asn Leu Phe Leu Tyr Leu Leu Arg  
210 215 220

Phe Leu Gly Gln Arg Arg Asn Asp  
225 230

<210> 405

<211> 194

<212> PRT

<213> Homo sapiens

<400> 405

Thr Ser Glu Asn Gln Thr Ile Lys Ala Ile Ile Phe Ser Asn Ser Met  
1 5 10 15

Ser Phe Met Ala Met Ile Leu Ile Gln Phe Gly Leu Val Tyr Ala Ile  
20 25 30

Ser Gly Ala Leu Asn Lys Ile Ser Ser Asn Thr Ala Thr Ala Leu Phe  
35 40 45

Leu Leu Tyr Ser Ala Leu Thr Gly Val Thr Leu Ser Ser Ile Phe Met  
50 55 60

Ile Tyr Thr Gln Gly Ser Ile Val Phe Thr Phe Gly Ile Thr Ala Gly

65		70		75		80
Thr Phe Leu Gly Met Ser Val Tyr Gly Tyr Thr Thr Thr Thr Asp Leu						
	85			90		95
Thr Lys Met Gly Ser Tyr Leu Ile Met Gly Leu Trp Gly Ile Ile Ile						
	100		105		110	
Ala Ser Leu Val Asn Met Phe Phe Arg Ser Ser Gly Leu Asn Phe Leu						
	115		120		125	
Ile Ser Ile Leu Gly Val Val Ile Phe Thr Gly Leu Thr Ala Tyr Asp						
	130		135		140	
Val Gln Asn Ile Ser Lys Met Asp Lys Met Leu Gln Asp Asp Thr Glu						
	145		150		155	160
Ile Lys Asn Arg Met Ala Val Val Ala Ser Leu Lys Leu Tyr Leu Asp						
	165		170		175	
Phe Ile Asn Leu Phe Leu Tyr Leu Leu Arg Phe Leu Gly Gln Arg Arg						
	180		185		190	

Asn Asp

&lt;210&gt; 406

&lt;211&gt; 699

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 406

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atgatcgatt taacacaaga aaaacaagaa atactaataa aaaacaagtt tttagccaaa 60
gttttcgggc ttatgtcaat tggactttta atctcagcag tatttgcata tgcaacctca 120
gaaaatcaaa caatcaaagc aataatattc tcaaattcaa tgcatttat ggctatgata 180
cttatacaat ttggacttgt atatgcaata agtgggtgctc ttaataaaat atcaagcaat 240
actgcaacag ctcttttctt gctctactca gcactaacag gagtaacatt atcttctata 300
tttatgattt acacacaagg atcaatagta ttcacattcg gaattactgc tggaacattt 360
cttggaatgt ctgtttatgg atacactaca acaacagatc taacaaaaat gggaagctat 420
ttaataatgg gcttatgggg aatcattatt gcattctcttg ttaatatgtt ttttagaagc 480
tcaggctcta atttccttat atctattttg ggcgtagtta tatttacagg cttaacagct 540
tatgatgttc aaaatatttc taaaatggac aaaatgctac aagacgacac tgaaataaaa 600
aacagaatgg cggttgtagc ctcaactaaa ctttatttag attttataaa tttattctta 660
tatcttctaa gatttttggg ccaaagaaga aacgattaa 699

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&lt;210&gt; 407

&lt;211&gt; 585

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 407

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agcaatactg caacagctct tttcttgctc tactcagcac taacaggagt aacattatct 180
tctatattta tgatttacac acaaggatca atagtattca cattcggaat tactgctgga 240
acatttcttg gaatgtctgt ttatggatac actacaacaa cagatctaac aaaaatggga 300
agctatttaa taatgggctt atgggggaatc attattgcat ctcttgtaa tatgtttttt 360
agaagctcag gtcttaattt ccttatatct attttgggcg tagttatatt tacaggctta 420

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acagcttatg atgttcaaaa tattttctaaa atggacaaaa tgctacaaga cgacactgaa 480  
 ataaaaaaca gaatggcggg ttagcctca cttaaacttt atttagattt tataaattta 540  
 ttcttatatc ttctaagatt tttgggcaa agaagaaacg attaa 585

<210> 408

<211> 214

<212> PRT

<213> Homo sapiens

<400> 408

Met Lys Phe Phe Phe Leu Leu Gln Ile Ala Leu Ile Leu Leu Ser Asn  
 1 5 10 15

Ser Ser Leu Leu Phe Gly Gln Ser Pro Pro Lys Glu Lys Glu Asp Ser  
 20 25 30

Leu Leu Leu Tyr Lys Glu Gly Lys Phe Lys Glu Ala Ile Leu Asn Thr  
 35 40 45

Leu Glu Glu Ile Arg Leu Asn Pro Ser Asn Leu Asp Ala Arg Thr Ile  
 50 55 60

Leu Ile Trp Ser Leu Ile Ala Ile Gly Glu Tyr Lys Arg Ala Glu Lys  
 65 70 75 80

Glu Ala Ile Ile Gly Leu Gly Ile Lys Lys His Asp Ile Arg Ile Ile  
 85 90 95

Gln Ala Leu Gly Glu Ala Tyr Phe Phe Gln Lys Asn Tyr Asp Asn Ala  
 100 105 110

Leu Lys Tyr Phe Gln Glu Tyr Ile Ser Leu Asp Ser Lys Gly Ala Arg  
 115 120 125

Ile Ile Lys Val Tyr Asn Leu Ile Ala Asp Ser Phe Tyr Glu Leu Lys  
 130 135 140

Arg Tyr Asn Glu Ala Asp Phe Ala Tyr Glu His Ala Leu Arg Phe Ser  
 145 150 155 160

Pro Asn Asn Gln Asn Leu Leu Ile Lys Leu Ala Arg Ser Arg Ile Asn  
 165 170 175

Ala Lys Asn Lys Ile Leu Ala Glu Glu Ala Leu Ile Lys Ile Leu Thr  
 180 185 190

Ile Ser Pro Asn Asn Leu Glu Ala Lys Asn Leu Leu Glu Glu Leu Lys  
 195 200 205

Lys Ser Asn Asn Lys Pro  
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<210> 409

<211> 185

<212> PRT

<213> Homo sapiens

<400> 409

Glu Asp Ser Leu Leu Leu Tyr Lys Glu Gly Lys Phe Lys Glu Ala Ile  
 1 5 10 15  
 Leu Asn Thr Leu Glu Glu Ile Arg Leu Asn Pro Ser Asn Leu Asp Ala  
 20 25 30  
 Arg Thr Ile Leu Ile Trp Ser Leu Ile Ala Ile Gly Glu Tyr Lys Arg  
 35 40 45  
 Ala Glu Lys Glu Ala Ile Ile Gly Leu Gly Ile Lys Lys His Asp Ile  
 50 55 60  
 Arg Ile Ile Gln Ala Leu Gly Glu Ala Tyr Phe Phe Gln Lys Asn Tyr  
 65 70 75 80  
 Asp Asn Ala Leu Lys Tyr Phe Gln Glu Tyr Ile Ser Leu Asp Ser Lys  
 85 90 95  
 Gly Ala Arg Ile Ile Lys Val Tyr Asn Leu Ile Ala Asp Ser Phe Tyr  
 100 105 110  
 Glu Leu Lys Arg Tyr Asn Glu Ala Asp Phe Ala Tyr Glu His Ala Leu  
 115 120 125  
 Arg Phe Ser Pro Asn Asn Gln Asn Leu Leu Ile Lys Leu Ala Arg Ser  
 130 135 140  
 Arg Ile Asn Ala Lys Asn Lys Ile Leu Ala Glu Glu Ala Leu Ile Lys  
 145 150 155 160  
 Ile Leu Thr Ile Ser Pro Asn Asn Leu Glu Ala Lys Asn Leu Leu Glu  
 165 170 175  
 Glu Leu Lys Lys Ser Asn Asn Lys Pro  
 180 185

&lt;210&gt; 410

&lt;211&gt; 645

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 410

atgaaatttt tttttctatt acaaataagct ttaattctac tatccaattc aagcttggtta 60  
 tttggacaat caccgcctaa agaaaaagaa gactctcttc ttctatataa agaaggaaaa 120  
 tttaaagaag ctatttttaa cacgtagtaa gaaattcgac taaatcctag taacttagat 180  
 gctaggacaa tattgatatg gagcttaata gccataggag aatacaagag agctgaaaaa 240  
 gaggcgatta taggacttgg cattaaaaaa catgacataa gaattattca agcactagga 300  
 gaagcttatt tctttcaaaa aaattatgac aatgcattaa aatactttca agaatacatt 360  
 agccttgatt ctaaaggagc aagaataata aaagtttata atttaattgc agattctttt 420  
 tatgagctaa aaagatataa tgaagccgat tttgcatacg aacatgcatt acgtttttct 480  
 cctaataacc aaaatctatt aataaaatta gcaagatcaa gaataaatgc aaaaaataaa 540  
 atattagcag aagaagcact aattaaaatt cttacaatct ctctaataa tctagaggca 600  
 aaaaatttac tagaagaatt aaaaaaagc aacaacaaac cttga 645

&lt;210&gt; 411

&lt;211&gt; 558

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

<400> 411  
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gaagaaattc gactaaatcc tagtaactta gatgctagga caatattgat atggagctta 120  
atagccatag gagaatacaa gagagctgaa aaagaggcga ttataggact tggcattaaa 180  
aaacatgaca taagaattat tcaagcacta ggagaagctt atttctttca aaaaaattat 240  
gacaatgcat taaaataactt tcaagaatac attagccttg attctaaagg agcaagaata 300  
ataaaagttt ataattttaat tgcagattct ttttatgagc taaaaagata taatgaagcc 360  
gattttgcat acgaacatgc attacgtttt tctcctaata accaaaatct attaataaaa 420  
ttagcaagat caagaataaaa tgcaaaaaat aaaatattag cagaagaagc actaattaaa 480  
attcttaciaa tctctcctaa taatctagag gcaaaaaatt tactagaaga attaaaaaaa 540  
agcaacaaca aaccttga 558

<210> 412  
<211> 1494  
<212> PRT  
<213> Homo sapiens

<400> 412  
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20 25 30  
Lys Leu Val Asp Gln Phe Phe Pro Phe Tyr Tyr Lys Asn Asn Lys Gly  
35 40 45  
Glu Tyr Glu Gly Leu Ile Phe Ser Ile Leu Asp Lys Trp Ala Lys Asp  
50 55 60  
Asn Asn Ala Asp Ile Met Val Glu His Ile Asp Asn Leu Asn Glu Ser  
65 70 75 80  
Glu Ile Glu Asp Glu Ala Ile Tyr Leu Gly Leu Thr Tyr Asn Val Lys  
85 90 95  
Leu Asn Asp Phe Phe Tyr Phe Lys Ser Glu Leu Ala Arg Ser Ile Ser  
100 105 110  
Ile Leu Phe Phe Lys Asn Ser Asn Lys Lys Tyr Lys Asn Thr His Ser  
115 120 125  
Thr Phe Leu Ser Asn Phe Asn Ile Gly Val Ile Lys Asn Thr Ile Tyr  
130 135 140  
Glu Asp Ile Leu Arg Leu Lys Asn Val Asn Thr Ile Phe Leu Ala Asp  
145 150 155 160  
Asn Ser Gln Glu Leu Val Leu Ala Leu Lys Asn Asp Lys Val Asp Tyr  
165 170 175  
Ile Tyr Gly Asp Cys Lys Thr Leu His Tyr Ile Ala Asn Asn Phe Leu  
180 185 190  
Ser Glu Asp Leu Val Ile Phe Thr Gly Asp Val Phe Tyr Ser Ile Lys  
195 200 205

Asn Arg Val Ala Ile Ser Arg Asn Ala Pro Glu Ile Val Lys Asn Leu  
 210 215 220  
 Asn Leu Asp Leu Phe Ser Tyr Leu Met Lys Met Pro Glu Glu Leu Val  
 225 230 235 240  
 Phe Ser Phe Leu Asp Ser Asn Ala Lys Gly Ser Phe Val Asp Val Gly  
 245 250 255  
 Leu Tyr Asn Asp Tyr Pro Pro Leu Ser Phe Ile Asn Ser Gln Gly Lys  
 260 265 270  
 Leu Ser Gly Ile Leu Val Asp Leu Trp Asn Leu Leu Ser Arg Gln His  
 275 280 285  
 Ile Phe Lys Pro Ile Phe Lys Gly Phe Ser Lys Glu Asp Ile Lys Lys  
 290 295 300  
 Ser Leu Asp Gly Lys Ser Val Gly Ile Phe Gly Gly Ile Ile Ser Asn  
 305 310 315 320  
 Asp Ser Val Leu Glu Asn Val Asn Tyr Val Val Ser Lys Pro Ile Tyr  
 325 330 335  
 Pro Leu Asn Phe Lys Phe Tyr Ser Lys Asp Leu Ser Asn Asp Ala Gly  
 340 345 350  
 Pro Ile Asn Ser Gln Phe Ile Asp Phe Asn Phe Asn Asn Ile Gln Leu  
 355 360 365  
 Asn Lys Asn Lys Asp Ile Val Asn Asn Phe Ile Asp Ile Val Asn Asn  
 370 375 380  
 Ser Tyr Gly Phe Ile Glu Asn Ser Ile Thr Thr Lys Tyr Leu Leu Lys  
 385 390 395 400  
 Leu Asn Gly Tyr Asn Gly Arg Leu Lys Ser Tyr Asp Ser Ile Phe Asn  
 405 410 415  
 Lys Asn Arg Phe Leu Val Leu Ala Ile Asp Asn Arg Ile Tyr Lys Val  
 420 425 430  
 Ile Lys Tyr Ile Leu Asn Ser Ile Phe Asp Asp Ile Ser Phe Glu Ser  
 435 440 445  
 Leu Leu Gln Ile Asp Lys Asn Trp Leu Asp Lys Glu Glu Ile Asn Ser  
 450 455 460  
 Ser Arg Ile Asn Ser Tyr Lys Ile Met Asn Lys Val Lys Phe Asn Ile  
 465 470 475 480  
 Glu Glu Lys Ile Trp Leu Ser Lys Asn Asn Lys Leu Asn Leu Ala Val  
 485 490 495  
 Lys Asn Trp Tyr Pro Ile Asp Tyr Val Glu Ala Asn Asn Tyr Lys Gly  
 500 505 510  
 Ile Asn Gln Phe Leu Leu Asp Lys Ile Arg Met Phe Ser Gly Leu Arg

515					520					525					
Phe	Asn	Ile	Ile	Lys	Val	His	Ser	Ser	Leu	Asp	Leu	Lys	Lys	Leu	Ile
530						535					540				
Lys	Ser	Gly	Lys	Ile	Asp	Met	Leu	Asn	Thr	Asn	Ala	Thr	Asp	Ser	Asn
545					550					555					560
Leu	Asp	Asn	Val	Phe	Asn	Ile	Lys	Leu	Asn	Ser	Arg	Ile	Pro	Leu	Tyr
				565					570					575	
Ile	Phe	Ser	Asn	Lys	Lys	Arg	Val	Leu	Pro	Ser	Arg	Ser	Leu	Glu	Lys
			580					585					590		
Phe	Ala	Ile	Leu	Asp	Phe	Leu	Tyr	Ser	Lys	Asn	Leu	Ala	Ser	Asn	Ile
		595					600					605			
Lys	Ser	Lys	Leu	Ile	Leu	Val	Ser	Ser	Phe	Asn	Glu	Ala	Leu	Leu	Leu
		610				615					620				
Leu	Tyr	Lys	Gly	Lys	Val	Asp	Gly	Ile	Ile	Ser	Asp	Glu	Tyr	Thr	Ala
625					630					635					640
Ala	Ala	Val	Phe	Glu	Glu	Leu	Asn	Ile	Asp	Asp	Val	Glu	Lys	Ile	Pro
				645					650					655	
Thr	Phe	Arg	Asp	Leu	Ala	Phe	Asp	Leu	Ser	Leu	Ala	Ile	Tyr	Asn	Gln
			660					665					670		
Asp	Tyr	Ile	Leu	Lys	Glu	Ile	Ile	Gln	Lys	Val	Val	Met	Arg	Ser	Asn
		675				680						685			
Val	Asp	Ser	Gln	Met	Tyr	Leu	Asn	Asp	Trp	Lys	Phe	Asp	Ile	Tyr	Tyr
		690				695					700				
Lys	Ser	Arg	Ser	Ile	Arg	Phe	Lys	Asn	Phe	Lys	Phe	Leu	Val	Ile	Thr
705					710					715					720
Phe	Ile	Ile	Phe	Tyr	Phe	Thr	Phe	Leu	Gly	Phe	Val	Ile	Ile	Phe	Met
				725					730					735	
Phe	Arg	Leu	Ser	Phe	Glu	Gln	Lys	Arg	Arg	Tyr	Ser	Phe	Val	Met	Asn
			740					745					750		
Glu	Lys	Lys	Ile	Ala	Glu	Ala	Ala	Asn	Ala	Ala	Lys	Thr	Ile	Phe	Ile
		755					760					765			
Ala	Asn	Val	Ser	His	Asp	Ile	Arg	Thr	Pro	Ile	Asn	Gly	Ile	Met	Ala
		770				775					780				
Ala	Thr	Glu	Leu	Leu	Asp	Thr	Thr	Ile	Leu	Thr	Asp	Val	Gln	Lys	Asp
785					790					795					800
Tyr	Val	Arg	Met	Ile	Asn	Tyr	Ser	Ser	Asp	Ser	Leu	Leu	Ser	Leu	Ile
				805					810					815	
Asp	Asp	Ile	Leu	Tyr	Leu	Ser	Lys	Ile	Asp	Val	Asn	Glu	Leu	Tyr	Val
			820					825					830		



Glu Ser Gln Glu Ile Asp Leu Glu Ser Glu Met Glu Met Val Leu Lys  
 835 840 845  
 Ala Phe Gln Ser Gln Cys Ala Lys Lys Asn Ile Asp Leu Phe Ser Tyr  
 850 855 860  
 Ser Lys Ser Ile Phe Asn Asn Tyr Ile Lys Gly Asp Ile Val Lys Ile  
 865 870 875 880  
 Lys Gln Val Leu Ile Asn Leu Ile Gly Asn Ala Phe Lys Phe Thr Asp  
 885 890 895  
 Asp Gly Val Ile Val Leu Asn Tyr Glu Glu Val Cys Arg Thr Arg Thr  
 900 905 910  
 Asp Gly Asn Arg Val Leu Val Thr Val Glu Phe Lys Val Ile Asp Thr  
 915 920 925  
 Gly Lys Gly Ile Glu Lys Glu Asn Phe Ser Lys Ile Phe Glu Ile Phe  
 930 935 940  
 Lys Gln Glu Asp Asp Ser Ser Ser Arg Val His Glu Gly Ala Gly Leu  
 945 950 955 960  
 Gly Leu Ser Ile Ser Arg Glu Leu Ile Arg Leu Met Gly Gly Leu Gly  
 965 970 975  
 Ile Ala Val Asp Ser Lys Val Gly Glu Gly Thr Thr Phe Ser Phe Met  
 980 985 990  
 Leu Pro Phe Leu Leu Gly Ser Glu Leu Lys Ser Lys Lys Leu Ser Ile  
 995 1000 1005  
 Asn Arg Phe Gln Ser Val Asn Gly Asp Asn Lys Val Leu Asn Val Leu  
 1010 1015 1020  
 Leu Ser Gln Lys Ser Ile Lys Ile Phe Glu His Cys Ser Ile Leu Leu  
 025 1030 1035 1040  
 Gly Cys Ser Ser Asn Val Arg Tyr Val Ala Ser Phe Glu Asp Ala Tyr  
 1045 1050 1055  
 Lys Val Phe Lys Lys Tyr Pro Ser Tyr Asn Phe Val Tyr Ile Asn Val  
 1060 1065 1070  
 Asn Asn Asp Asn Ile Gln Glu Gly Ile Arg Leu Ala Asn Asn Ile Glu  
 1075 1080 1085  
 Arg Leu Asn Ser Asp Val Gln Ile Ile Phe Leu Phe Tyr Tyr Leu Asp  
 1090 1095 1100  
 Asn Lys Ala Leu Lys Asn Leu Lys Tyr Gly Tyr Val Lys Lys Pro Leu  
 105 1110 1115 1120  
 Met Gly Leu Gly Ile Cys Ser Ile Leu Tyr Lys Lys Glu Phe Asn Pro  
 1125 1130 1135

Glu Met Asp Phe Glu Asp Leu Val Pro Ile Asp Ser Ala Leu Arg Ile  
 1140 1145 1150

Lys Glu Pro Ile Asn Val Leu Ile Ala Glu Asp Asn Gln Val Asn Gln  
 1155 1160 1165

Lys Val Leu Lys Asp Ile Leu Val Val Ile Gly Ile Asn Glu Asn Phe  
 1170 1175 1180

Ile Asp Val Val Asp Asp Gly Val Lys Ala Leu Lys Ser Leu Lys Asp  
 1185 1190 1195 1200

Lys Lys Tyr Thr Ile Ser Phe Ile Asp Ile Arg Met Pro Arg Tyr Asp  
 1205 1210 1215

Gly Phe Ser Val Ala Lys Glu Ile Arg Lys Phe Glu Lys Ala Lys Asn  
 1220 1225 1230

Leu Lys Pro Cys Val Leu Val Ala Val Thr Ala His Ala Leu Gln Glu  
 1235 1240 1245

Tyr Lys Asp Lys Cys Leu Ala Ser Gly Met Asn Asp Tyr Ile Ser Lys  
 1250 1255 1260

Pro Ile His Ile Ser Ser Ile Lys Thr Ile Leu Lys Lys Tyr Leu Gln  
 1265 1270 1275 1280

Phe Glu Val Asp Asp Ile Gly Glu Asn Glu Asn Leu Asn Gln Leu Val  
 1285 1290 1295

Lys Phe Pro Asn Leu Asp Val Asn Arg Ala Leu Lys Glu Leu Asn Leu  
 1300 1305 1310

Ser Tyr Val Ser Tyr Ser Glu Leu Cys Arg Gly Leu Val Asp Phe Ile  
 1315 1320 1325

Ser Ile Asn Ile Ile Asp Leu Glu Lys Ala Phe Asp Glu Glu Asp Leu  
 1330 1335 1340

Ser Leu Ile Lys Asp Ile Ser His Ser Ile Ser Gly Ala Leu Ser Asn  
 1345 1350 1355 1360

Met Arg Ser Glu Leu Tyr Lys Asp Phe Gln Lys Ile Glu Thr Ser Lys  
 1365 1370 1375

Asp Ser Ile Ser Glu Leu Lys Lys Met Tyr Ser Phe Val Lys Asp Asp  
 1380 1385 1390

Leu Phe Gln Leu Ile Ser Asp Ile Lys Glu Asn Ile Leu Phe Glu Ser  
 1395 1400 1405

Glu Ile Val Ser Glu Asn Lys Leu Tyr Phe Lys Asn Asn Asp Gln Phe  
 1410 1415 1420

Leu Asn Leu Leu Asn Lys Leu Leu Ile Gly Ile Lys Thr Arg Lys Pro  
 1425 1430 1435 1440

Arg Glu Tyr Lys Glu Ile Leu Glu Ser Ile Asn Lys Tyr Val Leu Asp

1445 1450 1455  
Asp Asn Ile Gln Val Leu Phe Ser Asp Leu Arg Arg Asn Leu Arg Leu  
1460 1465 1470

Tyr Arg Phe Ala Glu Ser Ser Lys Ile Leu Glu Glu Ile Ile Glu Met  
1475 1480 1485

Leu Asn Asn Lys Arg Tyr  
1490

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<210> 413
<211> 1477
<212> PRT
<213> Homo sapiens
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<400> 413  
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20 25 30

Tyr Glu Gly Leu Ile Phe Ser Ile Leu Asp Lys Trp Ala Lys Asp Asn  
35 40 45

Asn Ala Asp Ile Met Val Glu His Ile Asp Asn Leu Asn Glu Ser Glu  
50 55 60

Ile Glu Asp Glu Ala Ile Tyr Leu Gly Leu Thr Tyr Asn Val Lys Leu  
65 70 75 80

Asn Asp Phe Phe Tyr Phe Lys Ser Glu Leu Ala Arg Ser Ile Ser Ile  
85 90 95

Leu Phe Phe Lys Asn Ser Asn Lys Lys Tyr Lys Asn Thr His Ser Thr  
100 105 110

Phe Leu Ser Asn Phe Asn Ile Gly Val Ile Lys Asn Thr Ile Tyr Glu  
115 120 125

Asp Ile Leu Arg Leu Lys Asn Val Asn Thr Ile Phe Leu Ala Asp Asn  
130 135 140

Ser Gln Glu Leu Val Leu Ala Leu Lys Asn Asp Lys Val Asp Tyr Ile  
145 150 155 160

Tyr Gly Asp Cys Lys Thr Leu His Tyr Ile Ala Asn Asn Phe Leu Ser  
165 170 175

Glu Asp Leu Val Ile Phe Thr Gly Asp Val Phe Tyr Ser Ile Lys Asn  
180 185 190

Arg Val Ala Ile Ser Arg Asn Ala Pro Glu Ile Val Lys Asn Leu Asn  
195 200 205

Leu Asp Leu Phe Ser Tyr Leu Met Lys Met Pro Glu Glu Leu Val Phe  
210 215 220

Ser Phe Leu Asp Ser Asn Ala Lys Gly Ser Phe Val Asp Val Gly Leu  
 225 230 235 240  
 Tyr Asn Asp Tyr Pro Pro Leu Ser Phe Ile Asn Ser Gln Gly Lys Leu  
 245 250 255  
 Ser Gly Ile Leu Val Asp Leu Trp Asn Leu Leu Ser Arg Gln His Ile  
 260 265 270  
 Phe Lys Pro Ile Phe Lys Gly Phe Ser Lys Glu Asp Ile Lys Lys Ser  
 275 280 285  
 Leu Asp Gly Lys Ser Val Gly Ile Phe Gly Gly Ile Ile Ser Asn Asp  
 290 295 300  
 Ser Val Leu Glu Asn Val Asn Tyr Val Val Ser Lys Pro Ile Tyr Pro  
 305 310 315 320  
 Leu Asn Phe Lys Phe Tyr Ser Lys Asp Leu Ser Asn Asp Ala Gly Pro  
 325 330 335  
 Ile Asn Ser Gln Phe Ile Asp Phe Asn Phe Asn Asn Ile Gln Leu Asn  
 340 345 350  
 Lys Asn Lys Asp Ile Val Asn Asn Phe Ile Asp Ile Val Asn Asn Ser  
 355 360 365  
 Tyr Gly Phe Ile Glu Asn Ser Ile Thr Thr Lys Tyr Leu Leu Lys Leu  
 370 375 380  
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&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

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&lt;210&gt; 416

&lt;211&gt; 343

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&lt;213&gt; Homo sapiens

&lt;400&gt; 416

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 Lys Leu Leu Asn Ile Arg Asp Lys Asn Asn Phe Phe Ile Gln Ser Trp  
 245 250 255  
 Asp Gln Lys Gly Gly Lys Ser Asn Ser Ile Asn Thr Asn Ser Phe Leu  
 260 265 270  
 Thr Thr Met Ile Arg Leu Gly Gly Arg Arg Lys Asn Gly Ile Gln Phe  
 275 280 285  
 Ala Lys His Leu Glu Ala Asp Ser Ser Asp Asp Ile Ser Tyr Leu Glu  
 290 295 300

Ser Arg Gly Trp Asp His Ile His Glu Trp Tyr Phe Val Phe Lys Arg  
305 310 315 320

Ile Val Tyr Pro Lys Asp Pro Glu Ile Asn Asn Gly Trp Thr Trp Ile  
325 330 335

Gly Val Tyr Leu Gly Lys Lys  
340

<210> 417

<211> 324

<212> PRT

<213> Homo sapiens

<400> 417

Cys Asn Gln Lys Gln Ser Glu Ile Gln Asn Leu Thr His Leu Leu Lys  
1 5 10 15

Ser Ser Asn Lys Asn Arg Leu Asp Lys Phe Leu Ile Ile Asp Arg Val  
20 25 30

Val Asn Ile Tyr Ile Ala Asn Lys Asn Tyr Glu Asp Ala Leu Glu Ile  
35 40 45

Val Asn Asn Gly Ile Ile Asp Asp Glu Ser Arg Glu Tyr Tyr Pro Leu  
50 55 60

Tyr Leu Tyr Leu Met Gly Asn Ile Tyr Asp Ser Met Gly Glu Asp Phe  
65 70 75 80

Val Ala Phe Asn Ile Tyr Lys Arg Val Val Asp Asn Phe Asp Asp Tyr  
85 90 95

Val Tyr Glu Asn His Ser Met Lys Thr Arg Val Ala Lys Lys Ile Val  
100 105 110

Asn Leu Asn Ile Asp Ser Ile Asp Lys Ile Asn Tyr Tyr Lys Phe Ile  
115 120 125

Leu Asn Met Gly Ile Asp Asn Leu Asn Asn Glu Glu Lys Gly Asn Tyr  
130 135 140

Phe Tyr Asn Leu Ala Leu Ser Leu Glu Asp Val Gln Asp Tyr Asp Glu  
145 150 155 160

Ser Tyr Phe Tyr Tyr Lys Lys Phe Leu Ser Ile Pro Arg Ala His Leu  
165 170 175

Lys Ile Asp Ser Arg Asp Tyr Phe Asn Val Val Thr Lys Ile Asn Tyr  
180 185 190

Phe Asn Asn Pro Glu Phe Val Val Tyr Arg Asn Leu Gly Asp Leu Ile  
195 200 205

Gln Asp Val Lys Asn Phe Val Leu Ser Gly Asn Thr Ser Lys Leu Leu  
210 215 220

Asn Ile Arg Asp Lys Asn Asn Phe Phe Ile Gln Ser Trp Asp Gln Lys

225                      230                      235                      240  
 Gly Gly Lys Ser Asn Ser Ile Asn Thr Asn Ser Phe Leu Thr Thr Met  
                                  245                      250                      255  
 Ile Arg Leu Gly Gly Arg Arg Lys Asn Gly Ile Gln Phe Ala Lys His  
                                  260                      265                      270  
 Leu Glu Ala Asp Ser Ser Asp Asp Ile Ser Tyr Leu Glu Ser Arg Gly  
                                  275                      280                      285  
 Trp Asp His Ile His Glu Trp Tyr Phe Val Phe Lys Arg Ile Val Tyr  
                                  290                      295                      300  
 Pro Lys Asp Pro Glu Ile Asn Asn Gly Trp Thr Trp Ile Gly Val Tyr  
                                  305                      310                      315                      320

Leu Gly Lys Lys

<210> 418  
 <211> 1032  
 <212> DNA  
 <213> Homo sapiens

<400> 418  
 atgaatctat tgggtcaaaat tgctaaattt attttgattt tgtttttatt tacttcttgc 60  
 aacaaaaagc aaagcgagat tcaaaatctt acacatcttt taaaatcttc taataaaaaat 120  
 agattagata aatttcttat tattgataga gttgttaaca tatatattgc aaataaaaaat 180  
 tatgaagatg ctttagaaat tgtaaataat ggaattattg atgatgaatc tagagaatat 240  
 taccctttgt atctttattt aatgggcaat atttatgatt ccatgggaga agattttgta 300  
 gcttttaata tttacaagcg tgttggtgat aattttgatg attatgttta tgaaaaccat 360  
 tcaatgaaaa caagggttgc taaaaagatt gtcaatttaa atattgattc aatcgataaa 420  
 atcaattatt acaaatttat attaaatatg gggattgata atttaaataa tgaggaaaaag 480  
 ggtaattatt tttataatct tgcgctaagt ttggaagatg ttcaagatta cgatgaatct 540  
 tatttttatt ataaaaaatt tctttcaatt ccaagggcac atttaaaaaat agattctaga 600  
 gactatttta atgttggttac aaaaattaat tactttaata atccagagtt tgttgtttat 660  
 agaaatttag gagatttaat ccaggatggt aaaaattttg ttctttcttg taatacttct 720  
 aaattgctta atataagaga taagaataat ttttttattc aaagctggga tcaaaaagggt 780  
 ggaaagagta attccattaa tactaatagc tttttaacca ctatgattag gcttgggggg 840  
 agaagaaaaa acggaatata atttgcaaag catcttgagg cagattctag tgacgatata 900  
 tcttatcttg agtcaagggg ctgggaccat attcatgaat ggtattttgt ttttaaaaga 960  
 attgtttatc ctaaagatcc agaaattaat aatggctgga cttggatagg cgtgtattta 1020  
 ggtaaaaaat aa 1032

<210> 419  
 <211> 975  
 <212> DNA  
 <213> Homo sapiens

<400> 419  
 tgcaaccaaa agcaaagcga gattcaaaat cttacacatc ttttaaaatc ttctaataaa 60  
 aatagattag ataaatttct tattattgat agagttgtta acatatatat tgcaaataaa 120  
 aattatgaag atgcttttaga aattgtaaat aatggaatta ttgatgatga atctagagaa 180  
 tattatcctt tgtatcttta tttaatgggc aatattttatg attccatggg agaagatttt 240  
 gtagctttta atatttacaa gcgtgttggt gataattttg atgattatgt ttatgaaaac 300  
 cattcaatga aaacaagggt tgctaaaaag attgtcaatt taaatattga ttcaatcgat 360  
 aaaaatcaatt attacaaatt tatatttaaat atggggattg ataatttaaa taatgaggaa 420

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aagggttaatt atttttataa tcttgcgcta agtttggaag atgttcaaga ttacgatgaa 480
tcttatttttt attataaaaa atttctttca attccaaggg cacattttaa aatagattct 540
agagactatt ttaatgttgt tacaaaaatt aattacttta ataatccaga gtttggttgt 600
tatagaaatt taggagattt aatccaggat gttaaaaaatt ttgttctttc tggtataact 660
tctaaattgc ttaatatag agataagaat aattttttta ttcaaagctg ggatcaaaag 720
ggaggaaaaga gtaattccat taatactaata agcttttttaa ccactatgat taggcttggg 780
gggagaagaa aaaacggaat acaatttgca aagcatcttg aggcagattc tagtgacgat 840
atatcttatc ttgagtcaag gggctgggac catattcatg aatgggtattt tgtttttaa 900
agaattgttt atcctaaaga tccagaaatt aataatggct ggacttggat aggcgtgtat 960
ttaggtaaaa aataa 975

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<210> 420

<211> 339

<212> PRT

<213> Homo sapiens

<400> 420

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Met Asn Lys Ile Leu Leu Leu Ile Leu Leu Glu Ser Ile Val Phe Leu
  1             5             10             15

Ser Cys Ser Gly Lys Gly Ser Leu Gly Ser Glu Ile Pro Lys Val Ser
          20             25             30

Leu Ile Ile Asp Gly Thr Phe Asp Asp Lys Ser Phe Asn Glu Ser Ala
          35             40             45

Leu Asn Gly Val Lys Lys Val Lys Glu Glu Phe Lys Ile Glu Leu Val
          50             55             60

Leu Lys Glu Ser Ser Ser Asn Ser Tyr Leu Ser Asp Leu Glu Gly Leu
          65             70             75             80

Lys Asp Ala Gly Ser Asp Leu Ile Trp Leu Ile Gly Tyr Arg Phe Ser
          85             90             95

Asp Val Ala Lys Val Ala Ala Leu Gln Asn Pro Asp Met Lys Tyr Ala
          100            105            110

Ile Ile Asp Pro Ile Tyr Ser Asn Asp Pro Ile Pro Ala Asn Leu Val
          115            120            125

Gly Met Thr Phe Arg Ala Gln Glu Gly Ala Phe Leu Thr Gly Tyr Ile
          130            135            140

Ala Ala Lys Leu Ser Lys Thr Gly Lys Ile Gly Phe Leu Gly Gly Ile
          145            150            155            160

Glu Gly Glu Ile Val Asp Ala Phe Arg Tyr Gly Tyr Glu Ala Gly Ala
          165            170            175

Lys Tyr Ala Asn Lys Asp Ile Lys Ile Ser Thr Gln Tyr Ile Gly Ser
          180            185            190

Phe Ala Asp Leu Glu Ala Gly Arg Ser Val Ala Thr Arg Met Tyr Ser
          195            200            205

Asp Glu Ile Asp Ile Ile His His Ala Ala Gly Leu Gly Gly Ile Gly
          210            215            220

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Ala Ile Glu Val Ala Lys Glu Leu Gly Ser Gly His Tyr Ile Ile Gly  
225 230 235 240

Val Asp Glu Asp Gln Ala Tyr Leu Ala Pro Asp Asn Val Ile Thr Ser  
245 250 255

Thr Thr Lys Asp Val Gly Arg Ala Leu Asn Ile Phe Thr Ser Asn His  
260 265 270

Leu Lys Thr Asn Thr Phe Glu Gly Gly Lys Leu Ile Asn Tyr Gly Leu  
275 280 285

Lys Glu Gly Val Val Gly Phe Val Arg Asn Pro Lys Met Ile Ser Phe  
290 295 300

Glu Leu Glu Lys Glu Ile Asp Asn Leu Ser Ser Lys Ile Ile Asn Lys  
305 310 315 320

Glu Ile Ile Val Pro Ser Asn Lys Glu Ser Tyr Glu Lys Phe Leu Lys  
325 330 335

Glu Phe Ile

<210> 421

<211> 322

<212> PRT

<213> Homo sapiens

<400> 421

Cys Ser Gly Lys Gly Ser Leu Gly Ser Glu Ile Pro Lys Val Ser Leu  
1 5 10 15

Ile Ile Asp Gly Thr Phe Asp Asp Lys Ser Phe Asn Glu Ser Ala Leu  
20 25 30

Asn Gly Val Lys Lys Val Lys Glu Glu Phe Lys Ile Glu Leu Val Leu  
35 40 45

Lys Glu Ser Ser Ser Asn Ser Tyr Leu Ser Asp Leu Glu Gly Leu Lys  
50 55 60

Asp Ala Gly Ser Asp Leu Ile Trp Leu Ile Gly Tyr Arg Phe Ser Asp  
65 70 75 80

Val Ala Lys Val Ala Ala Leu Gln Asn Pro Asp Met Lys Tyr Ala Ile  
85 90 95

Ile Asp Pro Ile Tyr Ser Asn Asp Pro Ile Pro Ala Asn Leu Val Gly  
100 105 110

Met Thr Phe Arg Ala Gln Glu Gly Ala Phe Leu Thr Gly Tyr Ile Ala  
115 120 125

Ala Lys Leu Ser Lys Thr Gly Lys Ile Gly Phe Leu Gly Gly Ile Glu  
130 135 140

Gly Glu Ile Val Asp Ala Phe Arg Tyr Gly Tyr Glu Ala Gly Ala Lys  
145 150 155 160

Tyr Ala Asn Lys Asp Ile Lys Ile Ser Thr Gln Tyr Ile Gly Ser Phe  
165 170 175

Ala Asp Leu Glu Ala Gly Arg Ser Val Ala Thr Arg Met Tyr Ser Asp  
180 185 190

Glu Ile Asp Ile Ile His His Ala Ala Gly Leu Gly Gly Ile Gly Ala  
195 200 205

Ile Glu Val Ala Lys Glu Leu Gly Ser Gly His Tyr Ile Ile Gly Val  
210 215 220

Asp Glu Asp Gln Ala Tyr Leu Ala Pro Asp Asn Val Ile Thr Ser Thr  
225 230 235 240

Thr Lys Asp Val Gly Arg Ala Leu Asn Ile Phe Thr Ser Asn His Leu  
245 250 255

Lys Thr Asn Thr Phe Glu Gly Gly Lys Leu Ile Asn Tyr Gly Leu Lys  
260 265 270

Glu Gly Val Val Gly Phe Val Arg Asn Pro Lys Met Ile Ser Phe Glu  
275 280 285

Leu Glu Lys Glu Ile Asp Asn Leu Ser Ser Lys Ile Ile Asn Lys Glu  
290 295 300

Ile Ile Val Pro Ser Asn Lys Glu Ser Tyr Glu Lys Phe Leu Lys Glu  
305 310 315 320

Phe Ile

<210> 422

<211> 1020

<212> DNA

<213> Homo sapiens

<400> 422

atgaataaaa tattgttggt gattttgctt gagagtattg tttttttatc ttgtagtggg 60  
aaaggtagtc ttgggagcga aattcctaag gtatctttaa taattgatgg aacttttgat 120  
gataaatctt ttaatgagag tgctttaaat ggcgtaaaaa aagttaaaga agaatttaaa 180  
attgagcttg ttttaaaga atcctcatca aattccttatt tatctgatct tgaagggctt 240  
aaggatgcgg gctcagattt aatttggtt attgggtata gatttagcga tgtggccaag 300  
gttgcggtc ttcaaaatcc cgatatgaaa tatgcaatta ttgatcctat ttattctaac 360  
gatcctattc ctgcaaattt ggtgggcatg accttagag ctcaagaggg tgcattttta 420  
acgggttata ttgctgcaaa acttttctaaa acaggtaaaa ttggattttt agggggaata 480  
gaaggcgaga tagtagatgc ttttaggtat gggtatgaag ctggtgctaa gtatgctaata 540  
aaagatataa agatatctac tcagtatat ggtagttttg ctgaccttga agctggtaga 600  
agcgttgcaa ctaggatgta ttctgatgag atagacatta ttcacatgac tgcaggcctt 660  
ggaggaattg gggctattga ggttgcaaaa gaacttggtt ctgggcatta cattattgga 720  
gttgatgaag atcaagcata tcttgctcct gacaatgtaa taacatctac aactaaagat 780  
gttggttagag ctttaaata ttttacatct aaccatttaa aaactaatac tttcgaagg 840  
ggcaaatata taaattatgg ccttaaagaa ggagtgtgtg ggtttgtaag aaatcctaaa 900  
atgatttcct ttgaacttga aaaagaaatt gacaatcttt ctagcaaaat aatcaacaaa 960



gaaattattg ttccatctaa taaagaaagt tatgagaagt ttcttaaaga atttatttaa 1020

<210> 423

<211> 969

<212> DNA

<213> Homo sapiens

<400> 423

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tgtagtggta aaggtagtct tgggagcgaa attcctaagg tatctttaat aattgatgga 60
acttttgatg ataaatcttt taatgagagt gcttttaaat gcgtaaaaaa agttaaagaa 120
gaatttataa ttgagcttgt tttaaaagaa tcctcatcaa attcttattt atctgatctt 180
gaagggttta aggatgcggg ctccagattta atttggctta ttgggtatag atttagcgat 240
gtggccaagg ttgcggctct tcaaaatccc gatatgaaat atgcaattat tgatcctatt 300
tattctaacg atcctattcc tgcaaatttg gtgggcatga cctttagagc tcaagagggt 360
gcatttttaa cgggttatat tgctgcaaaa ctttctaaaa caggtaaaat tggattttta 420
gggggaatag aaggcgagat agtagatgct tttaggtatg ggtatgaagc tgggtgctaag 480
tatgctaata aagatataaa gatatctact cagtattatt gtagttttgc tgaccttgaa 540
gctggtagaa gcgttgcaac taggatgtat tctgatgaga tagacattat tcatcatgct 600
gcaggccttg gaggaattgg ggctattgag gttgcaaaag aacttggttc tgggcattac 660
attattggag ttgatgaaga tcaagcatat cttgctcctg acaatgtaat aacatctaca 720
actaaagatg ttggtagagc tttaaatatt tttacatcta accattttaa aactaatact 780
ttcgaagggtg gcaaattaat aaattatggc cttaaagaag gagttgtggg gtttgtaaga 840
aatcctaata tgatttcctt tgaacttgaa aaagaaattg acaatcttcc tagcaaaata 900
atcaacaaag aaattattgt tccatctaata aaagaaagtt atgagaagtt tcttaaagaa 960
tttattttaa

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<210> 424

<211> 194

<212> PRT

<213> Homo sapiens

<400> 424

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Met Tyr Lys Asn Gly Phe Phe Lys Asn Tyr Leu Ser Leu Phe Leu Ile
  1           5           10           15

Phe Leu Val Ile Ala Cys Thr Ser Lys Asp Ser Ser Asn Glu Tyr Val
          20           25           30

Glu Glu Gln Glu Ala Glu Asn Ser Ser Lys Pro Asp Asp Ser Lys Ile
          35           40           45

Asp Glu His Thr Ile Gly His Val Phe His Ala Met Gly Val Val His
          50           55           60

Ser Lys Lys Asp Arg Lys Ser Leu Gly Lys Asn Ile Lys Val Phe Tyr
          65           70           75           80

Phe Ser Glu Glu Asp Gly His Phe Gln Thr Ile Pro Ser Lys Glu Asn
          85           90           95

Ala Lys Leu Ile Val Tyr Phe Tyr Asp Asn Val Tyr Ala Gly Glu Ala
          100          105          110

Pro Ile Ser Ile Ser Gly Lys Glu Ala Phe Ile Phe Val Gly Ile Thr
          115          120          125

Pro Asp Phe Lys Lys Ile Ile Asn Ser Asn Leu His Gly Ala Lys Ser
          130          135          140

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Asp Leu Ile Gly Thr Phe Lys Asp Leu Asn Ile Lys Asn Ser Lys Leu  
 145 150 155 160

Glu Ile Thr Val Asp Glu Asn Asn Ser Asp Ala Lys Thr Phe Leu Glu  
 165 170 175

Ser Val Asn Tyr Ile Ile Asp Gly Val Glu Lys Ile Ser Pro Met Leu  
 180 185 190

Thr Asn

<210> 425

<211> 173

<212> PRT

<213> Homo sapiens

<400> 425

Cys Thr Ser Lys Asp Ser Ser Asn Glu Tyr Val Glu Glu Gln Glu Ala  
 1 5 10 15

Glu Asn Ser Ser Lys Pro Asp Asp Ser Lys Ile Asp Glu His Thr Ile  
 20 25 30

Gly His Val Phe His Ala Met Gly Val Val His Ser Lys Lys Asp Arg  
 35 40 45

Lys Ser Leu Gly Lys Asn Ile Lys Val Phe Tyr Phe Ser Glu Glu Asp  
 50 55 60

Gly His Phe Gln Thr Ile Pro Ser Lys Glu Asn Ala Lys Leu Ile Val  
 65 70 75 80

Tyr Phe Tyr Asp Asn Val Tyr Ala Gly Glu Ala Pro Ile Ser Ile Ser  
 85 90 95

Gly Lys Glu Ala Phe Ile Phe Val Gly Ile Thr Pro Asp Phe Lys Lys  
 100 105 110

Ile Ile Asn Ser Asn Leu His Gly Ala Lys Ser Asp Leu Ile Gly Thr  
 115 120 125

Phe Lys Asp Leu Asn Ile Lys Asn Ser Lys Leu Glu Ile Thr Val Asp  
 130 135 140

Glu Asn Asn Ser Asp Ala Lys Thr Phe Leu Glu Ser Val Asn Tyr Ile  
 145 150 155 160

Ile Asp Gly Val Glu Lys Ile Ser Pro Met Leu Thr Asn  
 165 170

<210> 426

<211> 585

<212> DNA

<213> Homo sapiens

<400> 426

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atgtataaaa atgggttttt taaaaactat ttgtcattgt ttttaatttt ttttagtaatt 60
gcttgtactt caaaagatag ctcaaagtaa tatgttgagg agcaagaagc ggagaactct 120
tctaagcctg atgattctaa aatagatgaa catactattg ggcacgtttt tcacgctatg 180
ggagtagttc attcaaaaaa ggatcgaaaa agtttgggga aaaatataaa gggtttttat 240
ttttctgaag aagatggaca ttttcaaaca ataccctcaa aagagaatgc aaagttaata 300
gtttattttt atgacaatgt ttatgcagga gaggctccaa ttagtatctc tggaaaagaa 360
gcctttattt ttgttgggat taccctgac tttaaaaaga ttataaatag caatttacat 420
ggcgctaaaa gtgatcttat tggactttt aaagatctta atattaaaaa ttcaaaattg 480
gaaattacag ttgatgagaa taattcagat gccaaagacct tccttgaatc tgttaattac 540
attatcgacg gcgttgaaaa aatttcacct atgttaacga attaa 585

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&lt;210&gt; 427

&lt;211&gt; 522

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 427

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tgtacttcaa aagatagctc aaatgaatat gttgaggagc aagaagcggg gaactcttct 60
aagcctgatg attctaaaat agatgaacat actattgggc acgtttttca cgctatggga 120
gtagttcatt caaaaaagga tcgaaaaagt ttggggaaaa atataaaggt tttttatttt 180
tctgaagaag atggacattt tcaaacaata ccctcaaaag agaatgcaaa gttaatagtt 240
tatttttatg acaatgttta tgcaggagag gctccaatta gtatctctgg aaaagaagcc 300
tttatttttg ttgggattac ccctgacttt aaaaagatta taaatagcaa ttacatggc 360
gctaaaagtg atcttattgg tactttttaa gatcttaata ttaaaaattc aaaattggaa 420
attacagttg atgagaataa ttcagatgcc aagaccttcc ttgaatctgt taattacatt 480
atcgacggcg ttgaaaaaat ttcacctatg ttaacgaatt aa 522

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&lt;210&gt; 428

&lt;211&gt; 541

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 428

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Met Ser Phe Asn Lys Thr Lys Lys Ile Gly Lys Lys Ile Lys Ile Val
  1             5             10             15

Thr Leu Leu Met Leu Ala Val Ser Leu Ile Ala Cys Asn Asn Asn Ser
      20             25             30

Glu Lys Glu Lys Leu Ala Phe Lys Val Tyr Ile Gly Gly Ala Pro Ser
      35             40             45

Ser Leu Asp Pro His Leu Val Asp Glu Thr Ile Gly Ala Arg Ile Leu
      50             55             60

Glu Gln Ile Phe Ser Gly Leu Leu Thr Leu Asn Thr Lys Thr Gly Lys
      65             70             75             80

Leu Lys Pro Gly Leu Ala Lys Asn Trp Glu Ala Ser Lys Asp Lys Lys
      85             90             95

Thr Tyr Gln Phe Tyr Leu Arg Asp Asn Leu Phe Trp Ser Asp Gly Val
      100            105            110

Glu Ile Thr Ala Glu Gly Ile Arg Lys Ser Phe Leu Arg Ile Leu Asn
      115            120            125

Lys Glu Thr Gly Ser Thr Asn Val Asp Met Leu Lys Ser Ile Ile Lys

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130	135	140
Asn Gly Gln Glu Tyr Phe Asp Gly Lys Val Ser Asp Ser Glu Leu Gly		
145	150	155 160
Ile Lys Ala Ile Asp Ser Lys Thr Leu Glu Ile Thr Leu Thr Ala Pro		
	165	170 175
Lys Pro Tyr Phe Leu Glu Leu Leu Leu His Tyr Ala Phe Met Pro Val		
	180	185 190
Pro Ile His Val Ile Glu Lys Tyr Lys Gly Asn Trp Thr Ser Pro Glu		
	195	200 205
Asn Met Val Thr Ser Gly Pro Phe Lys Leu Lys Lys Arg Leu Pro Asn		
	210	215 220
Glu Lys Ile Ile Phe Glu Lys Asn Glu Arg Tyr Tyr Asn Ala Lys Glu		
	225	230 235 240
Val Glu Leu Asp Glu Leu Val Tyr Ile Thr Ser Asp Asn Asp Leu Thr		
	245	250 255
Val Tyr Asn Met Tyr Lys Asn Asn Glu Ile Asp Ala Ile Phe Asn Ser		
	260	265 270
Ile Pro Pro Asp Ile Val Asn Glu Ile Lys Leu Gln Lys Asp Tyr Tyr		
	275	280 285
Gln His Lys Ser Asn Ala Ile Tyr Leu Tyr Ser Phe Asn Thr Lys Ile		
	290	295 300
Lys Pro Leu Asp Asp Ala Arg Val Arg Glu Ala Leu Thr Leu Ala Ile		
	305	310 315 320
Asp Arg Glu Thr Leu Thr Tyr Lys Val Leu Asn Asp Gly Thr Val Pro		
	325	330 335
Thr Arg Glu Ile Thr Pro Asp Leu Lys Asn Tyr Asn Tyr Gly Lys Lys		
	340	345 350
Leu Ala Leu Phe Asp Pro Glu Lys Ser Lys Lys Leu Leu Ala Asp Ala		
	355	360 365
Gly Tyr Pro Asn Gly Lys Gly Phe Pro Met Leu Thr Leu Lys Tyr Asn		
	370	375 380
Thr Asn Glu Thr His Lys Lys Ile Ala Ala Phe Ile Gln Asn Gln Trp		
	385	390 395 400
Lys Lys Ile Leu Asn Ile Asn Leu Met Leu Thr Asn Glu Asn Trp Pro		
	405	410 415
Val Leu Thr Asn Ser Arg Asn Thr Gly Asn Phe Glu Ile Ile Arg Val		
	420	425 430
Gly Arg Ile Gly Glu Tyr Leu Asp Pro His Thr Tyr Phe Thr Ile Phe		
	435	440 445

Thr Arg Glu Asn Ser Gln Leu Ala Ser Tyr Gly Tyr Ser Asn Leu Glu  
450 455 460

Phe Asp Lys Leu Ile Arg Glu Ser Asp Leu Glu Lys Asp Pro Ile Lys  
465 470 475 480

Arg Lys Gln Leu Leu Arg Lys Ala Glu Ser Ile Ile Ile Glu Lys Asp  
485 490 495

Phe Pro Ala Ala Pro Ile Tyr Ile Tyr Ser Gly His Tyr Leu Phe Arg  
500 505 510

Asn Asp Lys Trp Thr Gly Trp Asn Pro Asn Val Ser Glu Val Tyr Tyr  
515 520 525

Leu Ser Glu Leu Lys Pro Ile Lys Asn Ala Lys His Asn  
530 535 540

<210> 429

<211> 514

<212> PRT

<213> Homo sapiens

<400> 429

Cys Asn Asn Asn Ser Glu Lys Glu Lys Leu Ala Phe Lys Val Tyr Ile  
1 5 10 15

Gly Gly Ala Pro Ser Ser Leu Asp Pro His Leu Val Asp Glu Thr Ile  
20 25 30

Gly Ala Arg Ile Leu Glu Gln Ile Phe Ser Gly Leu Leu Thr Leu Asn  
35 40 45

Thr Lys Thr Gly Lys Leu Lys Pro Gly Leu Ala Lys Asn Trp Glu Ala  
50 55 60

Ser Lys Asp Lys Lys Thr Tyr Gln Phe Tyr Leu Arg Asp Asn Leu Phe  
65 70 75 80

Trp Ser Asp Gly Val Glu Ile Thr Ala Glu Gly Ile Arg Lys Ser Phe  
85 90 95

Leu Arg Ile Leu Asn Lys Glu Thr Gly Ser Thr Asn Val Asp Met Leu  
100 105 110

Lys Ser Ile Ile Lys Asn Gly Gln Glu Tyr Phe Asp Gly Lys Val Ser  
115 120 125

Asp Ser Glu Leu Gly Ile Lys Ala Ile Asp Ser Lys Thr Leu Glu Ile  
130 135 140

Thr Leu Thr Ala Pro Lys Pro Tyr Phe Leu Glu Leu Leu Leu His Tyr  
145 150 155 160

Ala Phe Met Pro Val Pro Ile His Val Ile Glu Lys Tyr Lys Gly Asn  
165 170 175

Trp Thr Ser Pro Glu Asn Met Val Thr Ser Gly Pro Phe Lys Leu Lys  
 180 185 190  
 Lys Arg Leu Pro Asn Glu Lys Ile Ile Phe Glu Lys Asn Glu Arg Tyr  
 195 200 205  
 Tyr Asn Ala Lys Glu Val Glu Leu Asp Glu Leu Val Tyr Ile Thr Ser  
 210 215 220  
 Asp Asn Asp Leu Thr Val Tyr Asn Met Tyr Lys Asn Asn Glu Ile Asp  
 225 230 235 240  
 Ala Ile Phe Asn Ser Ile Pro Pro Asp Ile Val Asn Glu Ile Lys Leu  
 245 250 255  
 Gln Lys Asp Tyr Tyr Gln His Lys Ser Asn Ala Ile Tyr Leu Tyr Ser  
 260 265 270  
 Phe Asn Thr Lys Ile Lys Pro Leu Asp Asp Ala Arg Val Arg Glu Ala  
 275 280 285  
 Leu Thr Leu Ala Ile Asp Arg Glu Thr Leu Thr Tyr Lys Val Leu Asn  
 290 295 300  
 Asp Gly Thr Val Pro Thr Arg Glu Ile Thr Pro Asp Leu Lys Asn Tyr  
 305 310 315 320  
 Asn Tyr Gly Lys Lys Leu Ala Leu Phe Asp Pro Glu Lys Ser Lys Lys  
 325 330 335  
 Leu Leu Ala Asp Ala Gly Tyr Pro Asn Gly Lys Gly Phe Pro Met Leu  
 340 345 350  
 Thr Leu Lys Tyr Asn Thr Asn Glu Thr His Lys Lys Ile Ala Ala Phe  
 355 360 365  
 Ile Gln Asn Gln Trp Lys Lys Ile Leu Asn Ile Asn Leu Met Leu Thr  
 370 375 380  
 Asn Glu Asn Trp Pro Val Leu Thr Asn Ser Arg Asn Thr Gly Asn Phe  
 385 390 395 400  
 Glu Ile Ile Arg Val Gly Arg Ile Gly Glu Tyr Leu Asp Pro His Thr  
 405 410 415  
 Tyr Phe Thr Ile Phe Thr Arg Glu Asn Ser Gln Leu Ala Ser Tyr Gly  
 420 425 430  
 Tyr Ser Asn Leu Glu Phe Asp Lys Leu Ile Arg Glu Ser Asp Leu Glu  
 435 440 445  
 Lys Asp Pro Ile Lys Arg Lys Gln Leu Leu Arg Lys Ala Glu Ser Ile  
 450 455 460  
 Ile Ile Glu Lys Asp Phe Pro Ala Ala Pro Ile Tyr Ile Tyr Ser Gly  
 465 470 475 480  
 His Tyr Leu Phe Arg Asn Asp Lys Trp Thr Gly Trp Asn Pro Asn Val

485

490

495

Ser Glu Val Tyr Tyr Leu Ser Glu Leu Lys Pro Ile Lys Asn Ala Lys  
 500 505 510

His Asn

<210> 430  
 <211> 1626  
 <212> DNA  
 <213> Homo sapiens

<400> 430  
 atgagcttta ataaaaactaa aaaaatcggt aaaaaaatta aaatagtaac actacttatg 60  
 cttgctgtgt ctttaattgc atgcaataat aattcagaaa aagaaaaatt agcattttaa 120  
 gtatacatag ggggagcgcc ctcatcgctt gaccctcatt tggtagatga gacaatagga 180  
 gcaagaatth tagaacaat attctcaggg cttttgacat taaataccaa aacaggaaaag 240  
 ctaaagcccc gacttgctaa aaattgggaa gcctcaaaaag ataaaaaaac atatcaattt 300  
 tatctaaggg acaacctttt ttggagcgat ggagttgaaa ttaccgctga agggataaga 360  
 aaatcttttt taagaatttt aaataaagaa acaggatcta caaatgttga catgctcaaa 420  
 tcaataataa aaaatggaca agagtatttt gacgggaaaag tatccgattc tgaacttgga 480  
 atcaaggcaa ttgatagtaa aacgctggaa ataacactta cggcccaaaa gccatatttt 540  
 cttgaactgc ttctacatta cgcattcatg ccagtaccta ttcattgtgat tgaaaaatat 600  
 aagggaaatt ggacaagccc tgaaaaacatg gttactagcg gtccttttaa attaaaaaaa 660  
 agattaccta atgaaaaaat tatctttgaa aaaaacgaac gttattataa tgcaaaaagaa 720  
 gtagaacttg atgagcttgt ctacattacg tctgacaatg atcttactgt gtacaatatg 780  
 tacaaaaaca acgaaattga tgctattttt aacagcatcc cgccggacat tgtaaatgaa 840  
 ataaaaactac aaaaagacta ttaccaaacac aaaagtaatg caattttatt atattcattt 900  
 aatacaaaaa taaaaccctt tgatgatgct agagttagag aagctttaac cttagctatt 960  
 gacagagaaa ctttaactta caaagtgcta aatgatggca cagttcctac aagagaaaata 1020  
 actcctgatc ttaaaaatta caattacggt aaaaaattgg ctttatttga tcctgaaaaa 1080  
 tctaaaaagc ttttggcaga tgcagggtat cctaattggga aaggattccc aatgctaaca 1140  
 ctaaaatata atacaaacga aactcataaa aaaattgctg catttattca aaaccaatgg 1200  
 aaaaaaattc taaatatcaa tcttatgctt accaacgaaa attggcctgt tcttaccac 1260  
 agcagaaata ctggcaattt tgaaataata agagttggac gcattgggga atatttagat 1320  
 ccacacacat actttactat attcacaaga gaaaattcac aacttgcatc atacggatat 1380  
 tcaaacctag aatttgacaa actcatcaga gaatcagatc ttgaaaaaga tcctataaaa 1440  
 agaaaacaat tactcagaaa agcagaatca ataataattg aaaaagattt tcctgctgca 1500  
 ccaatatata tatattctgg gcattatctt tttagaaaacg ataaatggac tggatggaat 1560  
 cctaattgat cagaggttta ttatctttct gaattaaaac caattaaaaa tgcaaaacat 1620  
 aattaa 1626

<210> 431  
 <211> 1545  
 <212> DNA  
 <213> Homo sapiens

<400> 431  
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 tcctcgcttg accctcattt ggtagatgag acaataggag caagaatttt agaacaaata 120  
 ttctcagggc ttttgacatt aaataccaaa acaggaaaagc taaagccccg acttgctaaa 180  
 aattgggaag cctcaaaaaga taaaaaaaca tatcaatttt atctaaggga caaccttttt 240  
 tggagcgatg gagttgaaat taccgctgaa gggataagaa aatctttttt aagaatttta 300  
 aataaagaaa caggatctac aaatgttgac atgctcaaat caataataaa aaatggacaa 360  
 gagtattttg acgggaaaag atccgattct gaacttgga tcaaggcaat tgatagtaaa 420  
 acgctggaaa taacacttac ggccccaag ccatattttc ttgaactgct tctacattac 480  
 gcattcatgc cagtacctat tcatgtgatt gaaaaatata agggaaattg gacaagccct 540

```

gaaaacatgg ttactagcgg tcctttttaa ttaaaaaaaa gattaccta tgaaaaaatt 600
atctttgaaa aaaacgaacg ttattataat gcaaaagaag tagaacttga tgagcttgtc 660
tacattacgt ctgacaatga tcttactgtg tacaatatgt acaaaaacaa cgaaattgat 720
gctattttta acagcatccc gccggacatt gtaaataaaa taaaactaca aaaagactat 780
taccaacaca aaagtaatgc aattttattta tattcattta atacaaaaat aaaaccctt 840
gatgatgcta gagttagaga agctttaacc tttagctattg acagagaaac tttacttac 900
aaagtgctaa atgatggcac agttcctaca agagaaataa ctcctgatct taaaaattac 960
aattacggta aaaaattggc tttatttgat cctgaaaaat ctaaaaagct tttggcagat 1020
gcagggtatc ctaatgggaa aggattccca atgctaacac taaaatataa tacaacgaa 1080
actcataaaa aaattgctgc atttattcaa aaccaatgga aaaaaattct aaatatcaat 1140
cttatgctta ccaacgaaaa ttggcctgtt cttaccaaca gcagaaatac tggcaatttt 1200
gaaataataa gagttggacg cattggggaa tatttagatc cacacacata cttactata 1260
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ctcatcagag aatcagatct tgaaaaagat cctataaaaa gaaaaacaatt actcagaaaa 1380
gcagaatcaa taataattga aaaagatttt cctgctgcac caatatatat atattctggg 1440
cattatcttt ttagaaacga taaatggact ggatggaatc ctaatgtatc agaggtttat 1500
tatctttctg aattaaaacc aattaaaaat gcaaacata attaa 1545

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&lt;210&gt; 432

&lt;211&gt; 279

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 432

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Met Lys Lys Val Ile Ile Leu Ile Phe Met Leu Ser Thr Ser Leu Leu
  1             5             10             15

```

```

Tyr Asn Cys Lys Asn Gln Asp Asn Glu Lys Ile Val Ser Ile Gly Gly
          20             25             30

```

```

Ser Thr Thr Val Ser Pro Ile Leu Asp Glu Met Ile Leu Arg Tyr Asn
          35             40             45

```

```

Lys Ile Asn Asn Asn Thr Lys Val Thr Tyr Asp Ala Gln Gly Ser Ser
          50             55             60

```

```

Val Gly Ile Asn Gly Leu Phe Asn Lys Ile Tyr Lys Ile Ala Ile Ser
          65             70             75             80

```

```

Ser Arg Asp Leu Thr Lys Glu Glu Ile Glu Gln Gly Ala Lys Glu Thr
          85             90             95

```

```

Val Phe Ala Tyr Asp Ala Leu Ile Phe Ile Thr Ser Pro Glu Ile Lys
          100            105            110

```

```

Ile Thr Asn Ile Thr Glu Glu Asn Leu Ala Lys Ile Leu Asn Gly Glu
          115            120            125

```

```

Ile Gln Asn Trp Lys Gln Val Gly Gly Pro Asp Ala Lys Ile Asn Phe
          130            135            140

```

```

Ile Asn Arg Asp Ser Ser Ser Gly Ser Tyr Ser Ser Ile Lys Asp Leu
          145            150            155            160

```

```

Leu Leu Asn Lys Ile Phe Lys Thr His Glu Glu Ala Gln Phe Arg Gln
          165            170            175

```

```

Asp Gly Ile Val Val Lys Ser Asn Gly Glu Val Ile Glu Lys Thr Ser

```



180                      185                      190  
 Leu Thr Pro His Ser Ile Gly Tyr Ile Gly Leu Gly Tyr Ala Lys Asn  
                     195                      200                      205  
 Ser Ile Glu Lys Gly Leu Asn Ile Leu Ser Val Asn Ser Thr Tyr Pro  
                     210                      215                      220  
 Thr Lys Glu Thr Ile Asn Ser Asn Lys Tyr Thr Ile Lys Arg Asn Leu  
                     225                      230                      235                      240  
 Ile Ile Val Thr Asn Asn Lys Tyr Glu Asp Lys Ser Val Thr Gln Phe  
                     245                      250                      255  
 Ile Asp Phe Met Thr Ser Ser Thr Gly Gln Asp Ile Val Glu Glu Gln  
                     260                      265                      270  
 Gly Phe Leu Gly Ile Lys Thr  
                     275  
 <210> 433  
 <211> 261  
 <212> PRT  
 <213> Homo sapiens  
 <400> 433  
 Cys Lys Asn Gln Asp Asn Glu Lys Ile Val Ser Ile Gly Gly Ser Thr  
                     1                      5                      10                      15  
 Thr Val Ser Pro Ile Leu Asp Glu Met Ile Leu Arg Tyr Asn Lys Ile  
                     20                      25                      30  
 Asn Asn Asn Thr Lys Val Thr Tyr Asp Ala Gln Gly Ser Ser Val Gly  
                     35                      40                      45  
 Ile Asn Gly Leu Phe Asn Lys Ile Tyr Lys Ile Ala Ile Ser Ser Arg  
                     50                      55                      60  
 Asp Leu Thr Lys Glu Glu Ile Glu Gln Gly Ala Lys Glu Thr Val Phe  
                     65                      70                      75                      80  
 Ala Tyr Asp Ala Leu Ile Phe Ile Thr Ser Pro Glu Ile Lys Ile Thr  
                     85                      90                      95  
 Asn Ile Thr Glu Glu Asn Leu Ala Lys Ile Leu Asn Gly Glu Ile Gln  
                     100                      105                      110  
 Asn Trp Lys Gln Val Gly Gly Pro Asp Ala Lys Ile Asn Phe Ile Asn  
                     115                      120                      125  
 Arg Asp Ser Ser Ser Gly Ser Tyr Ser Ser Ile Lys Asp Leu Leu Leu  
                     130                      135                      140  
 Asn Lys Ile Phe Lys Thr His Glu Glu Ala Gln Phe Arg Gln Asp Gly  
                     145                      150                      155                      160  
 Ile Val Val Lys Ser Asn Gly Glu Val Ile Glu Lys Thr Ser Leu Thr  
                     165                      170                      175

Pro His Ser Ile Gly Tyr Ile Gly Leu Gly Tyr Ala Lys Asn Ser Ile  
 180 185 190

Glu Lys Gly Leu Asn Ile Leu Ser Val Asn Ser Thr Tyr Pro Thr Lys  
 195 200 205

Glu Thr Ile Asn Ser Asn Lys Tyr Thr Ile Lys Arg Asn Leu Ile Ile  
 210 215 220

Val Thr Asn Asn Lys Tyr Glu Asp Lys Ser Val Thr Gln Phe Ile Asp  
 225 230 235 240

Phe Met Thr Ser Ser Thr Gly Gln Asp Ile Val Glu Glu Gln Gly Phe  
 245 250 255

Leu Gly Ile Lys Thr  
 260

<210> 434

<211> 840

<212> DNA

<213> Homo sapiens

<400> 434

atgaaaaaag ttattatctt aatTTTTatg ctatcaacaa gtttattata caactgtaaa 60  
 aatcaagaca atgaaaaaat tgtatcaatt ggaggatcta caactgtaag cccaatacta 120  
 gacgaaatga ttttaagata taataaaata aacaataata ctaaagtaac atacgatgca 180  
 caaggaagta gtgttggcat aaacgggcta ttttaacaaaa tatataaaat agcaatatca 240  
 tcaagagatt taacaaaaga agaaattgaa caaggggcaa aagaaactgt atttgcttat 300  
 gatgctttta ttttcattac aagccctgaa ataaaaatta caaatattac agaagaaaat 360  
 ctagctaaaa tactaaatgg agaaattcaa aattggaaac aagtgggagg tcctgatgct 420  
 aaaatcaact ttatcaatcg agactcttct tctggttctt attcgtctat aaaagaccta 480  
 cttcttaata aaatattcaa aactcacgaa gaagctcaat ttagacaaga cggaatagtg 540  
 gtaaaatcta atggagaggt aattgaaaaa acaagcctta ctccccactc aataggatat 600  
 ataggtcttg gatacgcaaa aaattcaata gaaaagggtt tgaatattct ttctgttaac 660  
 agcacatatc ctacaaaaga aacaataaat agcaataaat acaccattaa aagaaattta 720  
 ataatagtta caaataacaa atacgaggat aaaagcgtaa ctcaatttat tgatttcatg 780  
 acaagctcaa ctggacaaga tattgttgaa gaacaaggct ttttagggat aaaaacataa 840

<210> 435

<211> 786

<212> DNA

<213> Homo sapiens

<400> 435

tgtaaaaatc aagacaatga aaaaattgta tcaattggag gatctacaac tgtaagccca 60  
 atactagacg aaatgatttt agatatataat aaaataaaca ataatactaa agtaacatac 120  
 gatgcacaag gaagtagtgt tggcataaac gggctattta acaaaatata taaaatagca 180  
 atatcatcaa gagatttaac aaaagaagaa attgaacaag gggcaaaaaga aactgtattt 240  
 gcttatgatg cttaattttt cattacaagc cctgaaataa aaattacaaa tattacagaa 300  
 gaaaatctag ctaaaatact aaatggagaa attcaaaatt ggaaacaagt gggaggctct 360  
 gatgctaaaa tcaactttat caatcgagac tcttcttctg gttcttattc gtctataaaa 420  
 gacctacttc ttaataaaat attcaaaact cacgaagaag ctcaatttag acaagacgga 480  
 atagtggtaa aatctaattg agaggtaatt gaaaaaacia gccttactcc ccaactcaata 540  
 ggatatatag gtcttggata cgcaaaaaat tcaatagaaa agggtttgaa tattctttct 600  
 gttaacagca catatcctac aaaagaaaca ataaatagca ataaatacac cattaagaaga 660  
 aatttaataa tagttacaaa taacaaatac gaggataaaa gcgtaactca atttattgat 720

ttcatgacaa gctcaactgg acaagatatt gttgaagaac aaggcttttt agggataaaa 780  
acataa 786

<210> 436

<211> 508

<212> PRT

<213> Homo sapiens

<400> 436

Met Asn Lys Lys Leu Asn Glu Val Leu Leu Lys Leu Asp Gln Asp Leu  
1 5 10 15

Ile Lys Cys Val Lys Gly Ser Leu Asp Leu Glu Ile Ser Gly Val Thr  
20 25 30

Tyr Ser Ser Lys Leu Val Leu Pro Arg Phe Val Phe Phe Ala Leu Pro  
35 40 45

Gly Ile His Phe Asp Gly His Asp Phe Ile Glu Ile Ala Ile Gln Lys  
50 55 60

Gly Ser Asn Val Val Val Cys Ser Arg Asp Val Asp Phe Tyr Ser Pro  
65 70 75 80

Asn Val Thr Tyr Ile Lys Val Asp Asp Phe Asn Ile Arg Lys Phe Met  
85 90 95

Ser Asn Phe Ser Asn Ile Phe Tyr Asp Glu Pro Ser Lys Lys Leu Lys  
100 105 110

Val Ile Gly Val Thr Gly Thr Asp Gly Lys Ser Ser Val Cys Tyr Tyr  
115 120 125

Ile Tyr Leu Leu Phe Lys Lys Lys Gly Val Lys Val Gly Phe Ile Ser  
130 135 140

Thr Val Phe Phe Asp Asp Gly Ser Gly Ser Leu Ile Lys Asn Pro Tyr  
145 150 155 160

Arg Gln Ser Thr Pro Glu Ser Thr Glu Ile His Ser Phe Leu Ser Thr  
165 170 175

Met Val Lys Asn Glu Ala Gln Tyr Ala Ile Leu Glu Ser Thr Ser His  
180 185 190

Gly Leu Asp Leu Glu Thr Ala Arg Leu Ile Asp Val Asn Tyr Phe Ala  
195 200 205

Val Val Phe Thr Asn Ile Gly His Glu His Leu Glu Phe His Gly Thr  
210 215 220

Ile Gln Asn Tyr Leu Asn Val Lys Leu Gly Leu Phe Arg Ser Val Ser  
225 230 235 240

Asp Asp Ala Gly Phe Gly Val Ile Asn Leu Asp Asp Leu Tyr Ser Ser  
245 250 255

Asp Phe Lys Asn Ala Val Lys Lys Ser Phe Thr Tyr Ser Leu Lys Ser

260	265	270
Ser Lys Ala Asp Phe Phe Val	Ser Phe Ile Asp Glu	Lys Thr Asp Ser
275	280	285
Thr Arg Phe Glu Phe Tyr His Lys Gly Val Lys Tyr Leu Ala Asn Val		
290	295	300
Ser Leu Leu Gly Ser Phe Asn Val Glu Asn Val Met Ala Ala Leu Ile		
305	310	315
Leu Val Ser Gln Ile Leu Asn Ile Asp Ile Gln Asp Ile Val Asp Lys		
325	330	335
Leu Asn Cys Ile Lys Ser Leu Asp Gly Arg Met Asp Ser Ile Asn Leu		
340	345	350
Gly Gln Asn Phe Ser Val Ile Ile Asp Tyr Ala His Thr Pro Gly Ala		
355	360	365
Phe Ser Lys Leu Phe Pro Ile Phe Lys Arg Phe Ala Thr Asn Arg Leu		
370	375	380
Ile Ser Val Phe Gly Ser Ala Gly Glu Arg Asp Val Glu Lys Arg Phe		
385	390	395
Leu Gln Gly Gln Ile Ala Asp Ile Tyr Ser Asp Leu Ile Ile Leu Cys		
405	410	415
Asp Glu Asp Pro Arg Gly Glu Asn Ser Met Cys Ile Ile Lys Asp Ile		
420	425	430
Ala Lys Gly Ile Val Asn Lys Val Glu Asn Lys Asp Leu Phe Phe Ile		
435	440	445
Ala Asp Arg Lys Gln Ala Ile Glu Lys Ala Ile Ser Leu Ala Lys Ala		
450	455	460
Gly Asp Leu Val Val Ala Leu Gly Lys Gly His Glu Ser Ser Ile Ile		
465	470	475
Tyr Lys Asn Arg Glu Val Phe Trp Asn Glu Gln Glu Val Val Lys Asn		
485	490	495
Ala Ile Leu Ser Leu Glu Lys Ser Glu Lys Glu Lys		
500	505	
<210> 437		
<211> 490		
<212> PRT		
<213> Homo sapiens		
<400> 437		
Cys Val Lys Gly Ser Leu Asp Leu Glu Ile Ser Gly Val Thr Tyr Ser		
1	5	10
Ser Lys Leu Val Leu Pro Arg Phe Val Phe Phe Ala Leu Pro Gly Ile		
20	25	30

His	Phe	Asp	Gly	His	Asp	Phe	Ile	Glu	Ile	Ala	Ile	Gln	Lys	Gly	Ser	35	40	45
Asn	Val	Val	Val	Cys	Ser	Arg	Asp	Val	Asp	Phe	Tyr	Ser	Pro	Asn	Val	50	55	60
Thr	Tyr	Ile	Lys	Val	Asp	Asp	Phe	Asn	Ile	Arg	Lys	Phe	Met	Ser	Asn	65	70	75
Phe	Ser	Asn	Ile	Phe	Tyr	Asp	Glu	Pro	Ser	Lys	Lys	Leu	Lys	Val	Ile	85	90	95
Gly	Val	Thr	Gly	Thr	Asp	Gly	Lys	Ser	Ser	Val	Cys	Tyr	Tyr	Ile	Tyr	100	105	110
Leu	Leu	Phe	Lys	Lys	Lys	Gly	Val	Lys	Val	Gly	Phe	Ile	Ser	Thr	Val	115	120	125
Phe	Phe	Asp	Asp	Gly	Ser	Gly	Ser	Leu	Ile	Lys	Asn	Pro	Tyr	Arg	Gln	130	135	140
Ser	Thr	Pro	Glu	Ser	Thr	Glu	Ile	His	Ser	Phe	Leu	Ser	Thr	Met	Val	145	150	155
Lys	Asn	Glu	Ala	Gln	Tyr	Ala	Ile	Leu	Glu	Ser	Thr	Ser	His	Gly	Leu	165	170	175
Asp	Leu	Glu	Thr	Ala	Arg	Leu	Ile	Asp	Val	Asn	Tyr	Phe	Ala	Val	Val	180	185	190
Phe	Thr	Asn	Ile	Gly	His	Glu	His	Leu	Glu	Phe	His	Gly	Thr	Ile	Gln	195	200	205
Asn	Tyr	Leu	Asn	Val	Lys	Leu	Gly	Leu	Phe	Arg	Ser	Val	Ser	Asp	Asp	210	215	220
Ala	Gly	Phe	Gly	Val	Ile	Asn	Leu	Asp	Asp	Leu	Tyr	Ser	Ser	Asp	Phe	225	230	235
Lys	Asn	Ala	Val	Lys	Lys	Ser	Phe	Thr	Tyr	Ser	Leu	Lys	Ser	Ser	Lys	245	250	255
Ala	Asp	Phe	Phe	Val	Ser	Phe	Ile	Asp	Glu	Lys	Thr	Asp	Ser	Thr	Arg	260	265	270
Phe	Glu	Phe	Tyr	His	Lys	Gly	Val	Lys	Tyr	Leu	Ala	Asn	Val	Ser	Leu	275	280	285
Leu	Gly	Ser	Phe	Asn	Val	Glu	Asn	Val	Met	Ala	Ala	Leu	Ile	Leu	Val	290	295	300
Ser	Gln	Ile	Leu	Asn	Ile	Asp	Ile	Gln	Asp	Ile	Val	Asp	Lys	Leu	Asn	305	310	315
Cys	Ile	Lys	Ser	Leu	Asp	Gly	Arg	Met	Asp	Ser	Ile	Asn	Leu	Gly	Gln	325	330	335

Asn Phe Ser Val Ile Ile Asp Tyr Ala His Thr Pro Gly Ala Phe Ser  
 340 345 350  
 Lys Leu Phe Pro Ile Phe Lys Arg Phe Ala Thr Asn Arg Leu Ile Ser  
 355 360 365  
 Val Phe Gly Ser Ala Gly Glu Arg Asp Val Glu Lys Arg Phe Leu Gln  
 370 375 380  
 Gly Gln Ile Ala Asp Ile Tyr Ser Asp Leu Ile Ile Leu Cys Asp Glu  
 385 390 395 400  
 Asp Pro Arg Gly Glu Asn Ser Met Cys Ile Ile Lys Asp Ile Ala Lys  
 405 410 415  
 Gly Ile Val Asn Lys Val Glu Asn Lys Asp Leu Phe Phe Ile Ala Asp  
 420 425 430  
 Arg Lys Gln Ala Ile Glu Lys Ala Ile Ser Leu Ala Lys Ala Gly Asp  
 435 440 445  
 Leu Val Val Ala Leu Gly Lys Gly His Glu Ser Ser Ile Ile Tyr Lys  
 450 455 460  
 Asn Arg Glu Val Phe Trp Asn Glu Gln Glu Val Val Lys Asn Ala Ile  
 465 470 475 480  
 Leu Ser Leu Glu Lys Ser Glu Lys Glu Lys  
 485 490

&lt;210&gt; 438

&lt;211&gt; 1527

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 438

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 aggtttgtgt tttttgctct tccaggaatt cattttgatg ggcatgattt tattgaaatt 180  
 gcaattcaaaa aggtagtaa tgttggtgtg tggtcacgag atgtggattt ttacagtcct 240  
 aatgttactt atattaaggt agatgacttt aacataagaa aatttatgtc taatttttca 300  
 aatatttttt atgatgagcc ttcaaaaaaa ttaaaagtta ttggagtcac tggcactgac 360  
 gggaaaagtt ctgtttgtta ttatatatat cttcttttta aaaaaaaggg tgttaaagta 420  
 ggttttatat cgacagtatt ttttgatgat gggagtggaa gcttgattaa aaatccttac 480  
 agacaatcaa ctcccgagtc tacggaaata cattcatttt taagcaccat ggtaaaaaat 540  
 gaagctcaat atgcaattct tgaatctact tctcatgggc ttgaccttga aacagcaagg 600  
 cttattgatg ttaattattt tgcagttggt ttaccataa ttggacatga gcatcttgaa 660  
 tttcatggca caattcaaaa ttatttgaat gtcaagctgg gtctttttcg gtctgttagt 720  
 gatgatgctg gttttgggtt tattaatctt gatgaccttt attcttctga ttttaagaat 780  
 gctgttaaga aatcttttac ttatagctta aaaagcagta aagcggattt ttttgtagt 840  
 tttattgatg agaaaaccga ttctactaga tttgaatttt atcacaaggg ggttaaatat 900  
 cttgctaagt ttagcctact ggggagtttt aatgttgaga atgtaatggc tgctcttatt 960  
 ttgatttctc aaattttaaa tatcgatatt caagatattg ttgataaact taactgcatt 1020  
 aaaagtcttg atgggcgtat ggatagtatt aatttggggc aaaatttttc tgtaataatt 1080  
 gattatgctc atactcctgg tgctttttcc aagctttttc ctatttttaa aagatttgct 1140  
 accaatagat tgatttctgt ttttggtctt gcaggagaaa gagatgttga aaaaagattt 1200  
 ttgcaagggc aaatcgaga tatttattct gatttaataa tactttgcga tgaagatcca 1260  
 agaggcgaga atagtatgtg tataattaaa gacattgcaa aaggaattgt aaataaagtt 1320

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gaaaataagg atttattttt tattgctgat agaaagcagg ctattgaaaa agcaataagt 1380
cttgcaaaag caggagattt ggttggtgct ttgggcaaaag gtcataaaaag ttcaataatt 1440
tataaaaaata gagaagtttt ttggaatgaa caagaggtag ttaaaaaatgc tatttttaagt 1500
ttaaaaaaat cagaaaagga gaagtga 1527

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&lt;210&gt; 439

&lt;211&gt; 1473

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 439

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tgtgtaaaaag gttctcttga tttagaaata tcaggagtta cttatagttc taaatttggtt 60
ttgcccagggt ttgtgttttt tgctcttcca ggaattcatt ttgatgggca tgatttttatt 120
gaaattgcaa ttcaaaaggg tagtaatggt gttgtgtggt cacgagatgt ggattttttac 180
agtcctaagt ttacttatat taaggtagat gactttaaca taagaaaatt tatgtctaatt 240
ttttcaaaata ttttttatga tgagccttca aaaaaattaa aagttattgg agtcactggc 300
actgacggga aaagtctctgt ttgttattat atatatcttc tttttaaaaa aaaggggtgtt 360
aaagtagggt ttatatcgac agtatttttt gatgatggga gtggaagctt gattaaaaat 420
ccttacagac aatcaactcc cgagtctacg gaaatacatt cttttttaag caccatgggt 480
aaaaatgaag ctcaatatgc aattcttgaa tctacttctc atgggcttga ccttgaaaca 540
gcaaggctta ttgatgttaa ttatttttga gttgttttta ccaatattgg acatgagcat 600
cttgaatttc atggcacaaat tcaaaattat ttgaatgtca agctgggtct ttttcggtct 660
gttagtgatg atgctgggtt tgggggttatt aatcttgatg acctttattc ttctgatttt 720
aagaatgctg ttaagaaatc ttttacttat agcttaaaaa gcagtaaagc ggattttttt 780
gttagtttta ttgatgagaa aaccgattct actagatttg aattttatca caaggggggtt 840
aaatatcttg ctaatgttag cctactgggg agttttaatg ttgagaatgt aatggctgct 900
cttatttttag tttctcaaat tttaaatata gatattcaag atattgttga taaacttaac 960
tgcattaaaa gtcttgatgg gcgtatggat agtatttaatt tggggcaaaa ttttctgtga 1020
ataattgatt atgctcatac tcttggtgct ttttccaagc tttttcctat ttttaaaaga 1080
tttgctacca atagattgat ttctgttttt ggctctgcag gagaaagaga tgttgaaaaa 1140
agatttttgc aagggcaaat cgcagatatt tattctgatt taataatact ttgcgatgaa 1200
gatccaagag gcgagaatag tatgtgtata attaaagaca ttgcaaaagg aattgttaat 1260
aaagttgaaa ataaggattt attttttatt gctgatagaa agcaggctat tgaaaaagca 1320
ataagtcctg caaaagcagg agattttggt gttgctttgg gcaaagggtca tgaaagttca 1380
ataattttata aaaatagaga agtttttttg aatgaacaag aggtagttaa aaatgctatt 1440
ttaagtttag aaaaatcaga aaaggagaag tga 1473

```

&lt;210&gt; 440

&lt;211&gt; 238

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 440

```

Met Val Phe Arg Thr Tyr Lys His Leu Glu Leu Ile Met Leu Pro Met
  1             5             10             15

```

```

Leu Met Leu Ser Cys Ala Phe Phe Lys Lys Pro Gln Ser Val His Gln
  20             25             30

```

```

Asp Ser Asn Thr Gly Lys Pro Ile Ser Asp Glu Lys Leu His Leu Ile
  35             40             45

```

```

Ser Gly Lys Ile Ser Asn Lys Lys Leu Pro Ile Ile Asn Ser Asn His
  50             55             60

```

```

Asp Val Thr Trp Ile Lys Thr Lys Ala Met Thr Ile Leu Gly Glu Asp
  65             70             75             80

```

Gly Lys Glu Ile Pro Glu Phe Lys Asn Lys Phe Gly Tyr Ser Tyr Ile  
                             85                            90                            95  
 Ile Ser Pro Val Lys Met Asp Gly Lys Tyr Ser Tyr Tyr Ala Ser Leu  
                             100                            105                            110  
 Leu Ile Leu Phe Glu Thr Thr Lys Asn Gly Asp Asp Glu Tyr Glu Ile  
                             115                            120                            125  
 Glu Asp Val Lys Phe Val Thr Ala Gly Ser Thr Leu Glu Leu Lys Asn  
                             130                            135                            140  
 Ser Leu Leu Ala Val Glu Asn Ser Gln Glu Glu Gly Tyr Val Thr Ala  
                             145                            150                            155                            160  
 Tyr Pro Phe Gly Ile Leu Met Ser Asp Glu Ile Lys Asn Ala Phe Lys  
                             165                            170                            175  
 Leu Thr Tyr Lys Asn Gly His Trp Asn Tyr Met Leu Ala Asp Leu Thr  
                             180                            185                            190  
 Val Lys Asn Lys Leu Thr Gln Glu Thr Lys Ile Tyr Lys Ile Ser Leu  
                             195                            200                            205  
 Asn Ser Lys Leu Ile Ile Glu Phe Leu Lys Glu Val Leu Lys Glu Asn  
                             210                            215                            220  
 Ser Ile Leu Lys Asp Ile Ala Gly Asp Leu Phe Glu Asp Ile  
                             225                            230                            235  
 <210> 441  
 <211> 218  
 <212> PRT  
 <213> Homo sapiens  
 <400> 441  
 Cys Ala Phe Phe Lys Lys Pro Gln Ser Val His Gln Asp Ser Asn Thr  
                             1                            5                            10                            15  
 Gly Lys Pro Ile Ser Asp Glu Lys Leu His Leu Ile Ser Gly Lys Ile  
                             20                            25                            30  
 Ser Asn Lys Lys Leu Pro Ile Ile Asn Ser Asn His Asp Val Thr Trp  
                             35                            40                            45  
 Ile Lys Thr Lys Ala Met Thr Ile Leu Gly Glu Asp Gly Lys Glu Ile  
                             50                            55                            60  
 Pro Glu Phe Lys Asn Lys Phe Gly Tyr Ser Tyr Ile Ile Ser Pro Val  
                             65                            70                            75                            80  
 Lys Met Asp Gly Lys Tyr Ser Tyr Tyr Ala Ser Leu Leu Ile Leu Phe  
                             85                            90                            95  
 Glu Thr Thr Lys Asn Gly Asp Asp Glu Tyr Glu Ile Glu Asp Val Lys  
                             100                            105                            110  
 Phe Val Thr Ala Gly Ser Thr Leu Glu Leu Lys Asn Ser Leu Leu Ala



115 120 125

Val Glu Asn Ser Gln Glu Glu Gly Tyr Val Thr Ala Tyr Pro Phe Gly  
130 135 140

Ile Leu Met Ser Asp Glu Ile Lys Asn Ala Phe Lys Leu Thr Tyr Lys  
145 150 155 160

Asn Gly His Trp Asn Tyr Met Leu Ala Asp Leu Thr Val Lys Asn Lys  
165 170 175

Leu Thr Gln Glu Thr Lys Ile Tyr Lys Ile Ser Leu Asn Ser Lys Leu  
180 185 190

Ile Ile Glu Phe Leu Lys Glu Val Leu Lys Glu Asn Ser Ile Leu Lys  
195 200 205

Asp Ile Ala Gly Asp Leu Phe Glu Asp Ile  
210 215

<210> 442  
<211> 717  
<212> DNA  
<213> Homo sapiens

<400> 442  
atggtatttta gaacatataa acatttggaa ctaataatgc tgcccatggt aatgctgagt 60  
tgcgctttttt ttaagaaacc acaatctgta catcaagaca gcaatactgg caaaccaata 120  
agcgatgaaa aattacattt aatatcaggc aaaatttcaa ataaaaaatt gccaatcata 180  
aatagtaatc atgacgtaac ttggataaaa acaaaggcaa tgacaatctt aggcgaagat 240  
ggaaaagaaa taccagaatt taaaaacaaa tttggatatt cttatataat atctcctgta 300  
aaaatggatg gaaaatatag ttattacgcg tcattattaa tactttttga aacaactaaa 360  
aatggagatg atgaatatga aattgaagat gttaaatttg taacagctgg ttccacccta 420  
gaacttaaaa attctctttt agctgttgaa aattcacaag aagaaggata tgttactgca 480  
taccattttg gaatattgat gactgacgag attaaaaatg ctttttaaatt aacatataaa 540  
aatggtcatt ggaattatat gcttgcagat ttaactgtca aaaataaact tactcaagaa 600  
actaaaattt ataaaatttc tcttaattca aaattaatta ttgaattttt aaaagaagtg 660  
ctaaaagaaa attctatatt aaaagacata gctggagatt tatttgaaga tatataa 717

<210> 443  
<211> 657  
<212> DNA  
<213> Homo sapiens

<400> 443  
tgcgctttttt ttaagaaacc acaatctgta catcaagaca gcaatactgg caaaccaata 60  
agcgatgaaa aattacattt aatatcaggc aaaatttcaa ataaaaaatt gccaatcata 120  
aatagtaatc atgacgtaac ttggataaaa acaaaggcaa tgacaatctt aggcgaagat 180  
ggaaaagaaa taccagaatt taaaaacaaa tttggatatt cttatataat atctcctgta 240  
aaaatggatg gaaaatatag ttattacgcg tcattattaa tactttttga aacaactaaa 300  
aatggagatg atgaatatga aattgaagat gttaaatttg taacagctgg ttccacccta 360  
gaacttaaaa attctctttt agctgttgaa aattcacaag aagaaggata tgttactgca 420  
taccattttg gaatattgat gactgacgag attaaaaatg ctttttaaatt aacatataaa 480  
aatggtcatt ggaattatat gcttgcagat ttaactgtca aaaataaact tactcaagaa 540  
actaaaattt ataaaatttc tcttaattca aaattaatta ttgaattttt aaaagaagtg 600  
ctaaaagaaa attctatatt aaaagacata gctggagatt tatttgaaga tatataa 657

<210> 444

<211> 126  
 <212> PRT  
 <213> Homo sapiens

<400> 444

```

Met Leu Arg Lys Leu Lys Asp Ile Ser Lys Ile Val Leu Val Thr Asp
 1           5           10           15

Gly Leu Thr Pro Asn Cys Gln Thr Cys Gly Lys Leu Ile Ala Asn Gly
      20           25           30

Asp Glu Val Tyr Ile Ala Glu Asp Gly Leu Phe His Ser Val Lys Ser
      35           40           45

Asn Thr Ile Ala Gly Ser Thr Leu Thr Met Ile Gln Gly Leu Lys Asn
      50           55           60

Leu Ile Glu Phe Gly Phe Ser Leu Ser Asp Ala Val Gln Ala Ser Ser
      65           70           75           80

Tyr Asn Pro Thr Arg Ile Leu Asn Ile Asp Lys Lys Gly Leu Ile Cys
      85           90           95

His Gly Tyr Asp Ala Asn Leu Asn Val Leu Asp Lys Asp Phe Asn Leu
      100           105           110

Lys Leu Thr Met Ile Glu Ser Lys Ile Ile Phe Asn Asn Leu
      115           120           125

```

<210> 445  
 <211> 105  
 <212> PRT  
 <213> Homo sapiens

<400> 445

```

Cys Gln Thr Cys Gly Lys Leu Ile Ala Asn Gly Asp Glu Val Tyr Ile
 1           5           10           15

Ala Glu Asp Gly Leu Phe His Ser Val Lys Ser Asn Thr Ile Ala Gly
      20           25           30

Ser Thr Leu Thr Met Ile Gln Gly Leu Lys Asn Leu Ile Glu Phe Gly
      35           40           45

Phe Ser Leu Ser Asp Ala Val Gln Ala Ser Ser Tyr Asn Pro Thr Arg
      50           55           60

Ile Leu Asn Ile Asp Lys Lys Gly Leu Ile Cys His Gly Tyr Asp Ala
      65           70           75           80

Asn Leu Asn Val Leu Asp Lys Asp Phe Asn Leu Lys Leu Thr Met Ile
      85           90           95

Glu Ser Lys Ile Ile Phe Asn Asn Leu
      100           105

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<210> 446  
 <211> 381

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 446

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atgcttagaa agcttaaaga tataagtaaa atagtccttg taactgacgg acttactcgg 60
aattgtcaaa cttgtggaaa actaattgca aacggagacg aagtttatat tgcagaagat 120
ggattattcc atagcgtgaa aagcaacaca atagctggat caacactcac aatgatacaa 180
ggtcttaaaa atttaataga atttggtttc agcttaagcg atgctgttca agcaagctct 240
tacaatccaa caagaattct caatattgat aaaaagggct taatatgtca tggatatgat 300
gcaaacctca atgtcctaga taaagatttt aatctaaagt taacaatgat agaactctaa 360
ataattttta acaatctcta a                                     381

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&lt;210&gt; 447

&lt;211&gt; 318

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 447

```

tgtcaaactt gtggaaaact aattgcaaac ggagacgaag tttatattgc agaagatgga 60
ttattccata gcgtgaaaag caacacaata gctggatcaa cactcacaat gatacaaggt 120
cttaaaaatt taatagaatt tggtttcagc ttaagcgatg ctgttcaagc aagctcttac 180
aatccaacaa gaattctcaa tattgataaa aagggcttaa tatgtcatgg atatgatgca 240
aacctcaatg tcttagataa agattttaat ctaaagtttaa caatgataga atctaaaata 300
atttttaaca atctctaa                                     318

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&lt;210&gt; 448

&lt;211&gt; 230

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 448

```

Met Lys Ile Leu Trp Leu Ile Ile Leu Val Asn Leu Phe Leu Ser Cys
  1             5             10             15

Gly Asn Glu Ser Lys Glu Lys Ser Asn Leu Gly Leu Arg Leu Arg Glu
      20             25             30

Leu Glu Ile Ser Gly Gly Gly Ser Glu Ser Lys Ile Glu Val Tyr Lys
      35             40             45

Glu Phe Ile Glu Lys Glu Asp Lys Asn Ile Leu Lys Ile Val Asn Ser
      50             55             60

Ile Asp Lys Lys Ala Arg Phe Phe Asn Leu Ile Gly Leu Glu Phe Phe
      65             70             75             80

Lys Leu Gly Gln Tyr Gly Pro Ala Ile Glu Tyr Phe Ala Lys Asn Leu
      85             90             95

Glu Ile Asn Pro Asn Asn Tyr Leu Ser His Phe Tyr Ile Gly Val Ala
      100            105            110

Ser Tyr Asn Leu Ala Lys Asn Leu Arg Val Lys Asp Glu Val Glu Lys
      115            120            125

Tyr Ile Ile Leu Ala Glu Asn Ser Phe Leu Lys Ser Leu Ser Ile Arg
      130            135            140

```

Asp Asp Phe Lys Asp Ser Leu Phe Ala Ile Ser Asn Met Tyr Val Tyr  
145 150 155 160

Asp Leu Asp Lys Gln Leu Glu Ala Lys Asn Tyr Leu Asn Lys Leu Gly  
165 170 175

Asp Met Gly Glu Asp Tyr Phe Glu Phe Leu Met Leu Arg Gly Ala Asn  
180 185 190

Tyr Tyr Ser Leu Gly Asp Leu Gly Asn Ala Ile Leu Phe Tyr Asp Lys  
195 200 205

Ala Ser Lys Lys Ala Ser Thr Glu Glu Gln Lys Glu Gly Val Ser Arg  
210 215 220

Ile Met Ser Asn Leu Lys  
225 230

<210> 449

<211> 215

<212> PRT

<213> Homo sapiens

<400> 449

Cys Gly Asn Glu Ser Lys Glu Lys Ser Asn Leu Gly Leu Arg Leu Arg  
1 5 10 15

Glu Leu Glu Ile Ser Gly Gly Gly Ser Glu Ser Lys Ile Glu Val Tyr  
20 25 30

Lys Glu Phe Ile Glu Lys Glu Asp Lys Asn Ile Leu Lys Ile Val Asn  
35 40 45

Ser Ile Asp Lys Lys Ala Arg Phe Phe Asn Leu Ile Gly Leu Glu Phe  
50 55 60

Phe Lys Leu Gly Gln Tyr Gly Pro Ala Ile Glu Tyr Phe Ala Lys Asn  
65 70 75 80

Leu Glu Ile Asn Pro Asn Asn Tyr Leu Ser His Phe Tyr Ile Gly Val  
85 90 95

Ala Ser Tyr Asn Leu Ala Lys Asn Leu Arg Val Lys Asp Glu Val Glu  
100 105 110

Lys Tyr Ile Ile Leu Ala Glu Asn Ser Phe Leu Lys Ser Leu Ser Ile  
115 120 125

Arg Asp Asp Phe Lys Asp Ser Leu Phe Ala Ile Ser Asn Met Tyr Val  
130 135 140

Tyr Asp Leu Asp Lys Gln Leu Glu Ala Lys Asn Tyr Leu Asn Lys Leu  
145 150 155 160

Gly Asp Met Gly Glu Asp Tyr Phe Glu Phe Leu Met Leu Arg Gly Ala  
165 170 175

Asn Tyr Tyr Ser Leu Gly Asp Leu Gly Asn Ala Ile Leu Phe Tyr Asp

180 185 190

Lys Ala Ser Lys Lys Ala Ser Thr Glu Glu Gln Lys Glu Gly Val Ser  
195 200 205

Arg Ile Met Ser Asn Leu Lys  
210 215

<210> 450  
<211> 693  
<212> DNA  
<213> Homo sapiens

<400> 450  
atgaaaat tgtgggtaaat aattcttggt aatttatttt tatcttggtg caatgaatct 60  
aaagaaaaat caaatcttggt tcttagatta agagaattgg aaatttcagg tgggtggatct 120  
gaatctaaga ttgaagttta taaagaat tttgaaaaag aagataagaa ttttttaaag 180  
atagtttaatt ccattgataa gaaagccaga ttttttaatt taattggtct tgaatttttt 240  
aagcttggtc agtacggacc tgctattgaa tattttgcta aaaatttaga aatcaatccc 300  
aataattatt tatctcattt ttatataggt gttgcttctt ataatttagc taaaaattta 360  
agagtaaaaag atgaagttga aaaatacata attcttgctg aaaattcctt tttaaaatca 420  
ctttcaatta gagatgattt taaagattct ctttttgcca tttctaatat gtacgtatat 480  
gatcttgata aacaacttga agctaaaaat tatttaaata aacttggtga tatgggtgag 540  
gactattttg agtttttaat gttaagaggt gcaaattatt attcgctggg cgatcttggt 600  
aatgctatat tgttttatga taaagctagt aaaaaggctt caactgaaga gcaaaaagaa 660  
gggtgtttcta ggatcatgag taatttgaag taa 693

<210> 451  
<211> 648  
<212> DNA  
<213> Homo sapiens

<400> 451  
tgtggcaatg aatctaaga aaaatcaaat cttggtctta gattaagaga attggaaatt 60  
tcaggtgggtg gatctgaatc taagattgaa gtttataaag aatttattga aaaagaagat 120  
aagaatattt taaagatagt taattccatt gataagaaag ccagattttt taattttaatt 180  
ggctttgaat tttttaagct tggtcagtag ggacctgcta ttgaatattt tgctaaaaat 240  
ttagaaatca atcccaataa ttatttatct catttttata taggtgttgc ttcttataat 300  
ttagctaaaa atttaagagt aaaagatgaa gttgaaaaat acataattct tgctgaaaaat 360  
tcttttttaa aatcactttc aattagagat gattttaaag attctctttt tgccatttct 420  
aatatgtacg tatatgatct tgataaacia cttgaagcta aaaattattt aaataaactt 480  
ggatgatagg gtgaggacta ttttgagttt ttaatgttaa gaggtgcaaa ttattattcg 540  
ctgggcgac ttggtaaatgc tatattgttt tatgataaag ctagtataaa ggcttcaact 600  
gaagagcaaa aagaagggtg ttctaggatc atgagtaatt tgaagtaa 648

<210> 452  
<211> 266  
<212> PRT  
<213> Homo sapiens

<400> 452  
Met Asn Asn Cys Leu Ile Lys Phe Phe Ile Phe Leu Leu Val Phe Ser  
1 5 10 15

Asn Ser Tyr Val Ala Phe Ser Lys Asn Val Asn Val Leu Ile Val Thr  
20 25 30

Ala Met Asp Ser Glu Phe Asp Gln Ile Asn Lys Leu Met Ser Asn Lys

35	40	45
Glu Glu Ile Val Leu Lys	Glu Tyr Gly Leu Asn Lys Lys Ile Leu Lys	
50	55	60
Gly Lys Leu Ser Asn Arg Asn Val Met Val Ile Ile Cys Gly Val Gly		
65	70	75
Lys Val Asn Ala Gly Val Trp Thr Ser Tyr Ile Leu Ser Lys Tyr Asn		
	85	90
Ile Ser His Val Ile Asn Ser Gly Val Ala Gly Gly Val Val Ser Ala		
	100	105
Lys Tyr Lys Asp Ile Lys Val Gly Asp Val Val Val Ser Ser Glu Val		
	115	120
Ala Tyr His Asp Val Asp Leu Thr Lys Phe Gly Tyr Lys Val Gly Gln		
	130	135
Leu Thr Gly Gly Leu Pro Gln Lys Phe Asn Ala Asn Lys Asn Leu Ile		
	145	150
Lys Asn Ala Ile Glu Ala Ile Lys Ser Lys Val Gly Gly Ser Asn Ala		
	165	170
Tyr Ser Gly Leu Ile Val Ser Gly Asp Gln Phe Ile Asp Pro Thr Tyr		
	180	185
Ile Asn Lys Ile Ile Gly Asn Phe Lys Asp Val Ile Ala Val Glu Met		
	195	200
Glu Gly Ala Ala Ile Gly His Val Ser His Met Phe Asn Ile Pro Phe		
	210	215
Ile Val Ile Arg Ser Ile Ser Asp Ile Val Asn Lys Glu Gly Asn Glu		
	225	230
Val Glu Tyr Ser Lys Phe Ser Lys Ile Ala Ala Phe Asn Ser Ala Lys		
	245	250
Val Val Gln Glu Ile Leu Arg Lys Leu Glx		
	260	265

<210> 453  
 <211> 243  
 <212> PRT  
 <213> Homo sapiens

<400> 453
Lys Asn Val Asn Val Leu Ile Val Thr Ala Met Asp Ser Glu Phe Asp
1 5 10 15
Gln Ile Asn Lys Leu Met Ser Asn Lys Glu Glu Ile Val Leu Lys Glu
20 25 30
Tyr Gly Leu Asn Lys Lys Ile Leu Lys Gly Lys Leu Ser Asn Arg Asn
35 40 45

Val Met Val Ile Ile Cys Gly Val Gly Lys Val Asn Ala Gly Val Trp  
 50 55 60

Thr Ser Tyr Ile Leu Ser Lys Tyr Asn Ile Ser His Val Ile Asn Ser  
 65 70 75 80

Gly Val Ala Gly Gly Val Val Ser Ala Lys Tyr Lys Asp Ile Lys Val  
 85 90 95

Gly Asp Val Val Val Ser Ser Glu Val Ala Tyr His Asp Val Asp Leu  
 100 105 110

Thr Lys Phe Gly Tyr Lys Val Gly Gln Leu Thr Gly Gly Leu Pro Gln  
 115 120 125

Lys Phe Asn Ala Asn Lys Asn Leu Ile Lys Asn Ala Ile Glu Ala Ile  
 130 135 140

Lys Ser Lys Val Gly Gly Ser Asn Ala Tyr Ser Gly Leu Ile Val Ser  
 145 150 155 160

Gly Asp Gln Phe Ile Asp Pro Thr Tyr Ile Asn Lys Ile Ile Gly Asn  
 165 170 175

Phe Lys Asp Val Ile Ala Val Glu Met Glu Gly Ala Ala Ile Gly His  
 180 185 190

Val Ser His Met Phe Asn Ile Pro Phe Ile Val Ile Arg Ser Ile Ser  
 195 200 205

Asp Ile Val Asn Lys Glu Gly Asn Glu Val Glu Tyr Ser Lys Phe Ser  
 210 215 220

Lys Ile Ala Ala Phe Asn Ser Ala Lys Val Val Gln Glu Ile Leu Arg  
 225 230 235 240

Lys Leu Glx

<210> 454

<211> 798

<212> DNA

<213> Homo sapiens

<400> 454

atgaataatt gtttaataaa gttttttatt tttttattag ttttttcaaa cagttatggt 60  
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 ataaataagc ttatgtctaa taaggaagaa atagttctta aggagtatgg tcttaataaa 180  
 aagattttta aggggaagtt gtctaatacgc aatgttatgg ttattatttg tgggggttgg 240  
 aagggttaatg ctggtgtgtg gactagctac attttgtcaa aatacaacat aagtcatgctc 300  
 attaattctg gcgttgctgg tggcgttggt agtgctaaat acaaagatat taaagtggga 360  
 gatgtggtgg tgtcttcaga ggttgcatat catgatgttg atttgactaa atttggtatc 420  
 aaggtaggac agcttacagg aggattgcct caaaaattta atgccaataa aaattttaatt 480  
 aagaatgccat tagaggccat taaatcaaag gttggagggt ctaatgcata ttcaggattta 540  
 atagtttcag gagatcagtt tattgatcca acttatatta acaaaattat agggaaacttt 600  
 aaagatgtaa tagctgttga gatggaaggt gcagcaatag ggcatgtttc tcatatgttt 660  
 aatataacctt ttatagttat taggtcaata tctgacattg taaataaaga aggggaatgag 720

gttgaatata gtaaattttc taaaatagct gctttcaatt cagccaaagt tgtacaagaa 780  
 attttaagaa aacttttaa 798

<210> 455

<211> 729

<212> DNA

<213> Homo sapiens

<400> 455

aaaaatgtca atgttttaaat agtaactgct atggactctg agtttgatca gataaataag 60  
 cttatgtcta ataaggaaga aatagttcctt aaggagtatg gtcttaataa aaagatttta 120  
 aaggggaagt tgtctaatacg caatgttatg gttattatgt gtgggggttg taagggtta 180  
 gctgggtgtg ggactagcta cattttgtca aaatacaaca taagtcatgt cattaattct 240  
 ggcgttgctg gtggcgttgt tagtgctaaa tacaaagata tttaaagtggg agatgtggtg 300  
 gtgtcttcag aggttgcata tcatgatgtt gatttgacta aatttgata caaggtagga 360  
 cagcttacag gaggattgcc tcaaaaattt aatgccata aaaatttaatt taagaatgcc 420  
 atagaggcca ttaaatcaaa gggtggaggt tctaatagcatt attcaggatt aatagtttca 480  
 ggagatcagt ttattgatcc aacttatatt aacaaaatta taggaaactt taaagatgta 540  
 atagctgttg agatggaagg tgcagcaata gggcatgttt ctcatatgtt taatatacct 600  
 tttatagtta ttaggtcaat atctgacatt gtaaataaag aagggaatga gggtgaatat 660  
 agtaaatattt ctaaaatagc tgctttcaat tcagccaaag ttgtacaaga aattttaaga 720  
 aaacttttaa 729

<210> 456

<211> 124

<212> PRT

<213> Homo sapiens

<400> 456

Met Asn Thr Lys Thr Leu Tyr Leu Ile Ser Leu Ile Leu Leu Ala Cys  
 1 5 10 15

Asn Lys Asn Asn Lys Ile Pro Leu Ile Gln Lys Leu Asp Leu Pro Lys  
 20 25 30

Ser Ser Ile Leu Gly Phe Ser Asn Lys Met Gly Ile Ile Ile Lys Asp  
 35 40 45

Tyr Ala Phe Leu Ser Lys Ser Thr Lys Lys Asn Ser Glu Leu Asp Tyr  
 50 55 60

Asp Tyr Ala Ile Leu Leu Arg Lys Asp Glu Val Val Lys Ile Glu Lys  
 65 70 75 80

Thr Leu Glu Lys Thr Glu Arg Tyr Gly Ile Glu Gly Asn Trp Ile Leu  
 85 90 95

Val Asn Tyr Lys Gly Thr Lys Arg Tyr Ile Phe Ser Lys Asp Ile Asn  
 100 105 110

Ile Val Asn Asn Leu Ile Ile Asp His Ser Lys Glx  
 115 120

<210> 457

<211> 109

<212> PRT

<213> Homo sapiens



&lt;400&gt; 457

Cys Asn Lys Asn Asn Lys Ile Pro Leu Ile Gln Lys Leu Asp Leu Pro  
 1 5 10 15

Lys Ser Ser Ile Leu Gly Phe Ser Asn Lys Met Gly Ile Ile Ile Lys  
 20 25 30

Asp Tyr Ala Phe Leu Ser Lys Ser Thr Lys Lys Asn Ser Glu Leu Asp  
 35 40 45

Tyr Asp Tyr Ala Ile Leu Leu Arg Lys Asp Glu Val Val Lys Ile Glu  
 50 55 60

Lys Thr Leu Glu Lys Thr Glu Arg Tyr Gly Ile Glu Gly Asn Trp Ile  
 65 70 75 80

Leu Val Asn Tyr Lys Gly Thr Lys Arg Tyr Ile Phe Ser Lys Asp Ile  
 85 90 95

Asn Ile Val Asn Asn Leu Ile Ile Asp His Ser Lys Glx  
 100 105

&lt;210&gt; 458

&lt;211&gt; 372

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 458

atgaatacaa aaacattata ttaatatcc ttaattcttt tagcttgcaa taaaaataac 60  
 aaaattcctc tcattcaaaa attagatttg cccaaaagca gcattcttgg ctttagcaat 120  
 aaaatgggca taataataaa agattatgct tttcttagta aaagcactaa gaaaaatagc 180  
 gaattggatt atgattacgc aattctactc agaaaagacg aagtcgtaaa aattgaaaaa 240  
 aactagaaaa aaacagagcg ctatggaatt gaaggaaatt ggatcctagt caattacaag 300  
 ggaactaaaa gatacatctt tagcaaaagac atcaatatag tcaacaattt aataattgat 360  
 cattctaaat ag 372

&lt;210&gt; 459

&lt;211&gt; 327

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 459

tgcaataaaaa ataacaaaat tcctctcatt caaaaattag atttgcccaa aagcagcatt 60  
 cttggcttta gcaataaaaat gggcataata ataaaagatt atgcttttct tagtaaaagc 120  
 actaagaaaa atagcgaatt ggattatgat tacgcaattc tactcagaaa agacgaagtc 180  
 gtaaaaattg aaaaaacact agaaaaaaca gagcgctatg gaattgaagg aaattggatc 240  
 ctagtcaatt acaagggaac taaaagatc atcttttagca aagacatcaa tatagtcaac 300  
 aatttaataa ttgatcattc taaatag 327

&lt;210&gt; 460

&lt;211&gt; 263

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 460

Met Lys Ser Ile Tyr Ala Leu Leu Phe Leu Phe Ile Asn Leu Ser Leu  
 1 5 10 15

Leu Ala Asn Asn Ile Ser Lys Lys Asp Leu Glu Val Leu Leu Lys Ile  
                   20                                  25                                  30  
 Ala Gln Ala Met Asn Lys Glu Cys Lys Asn Phe Ile Glu Lys Asn Pro  
                   35                                  40                                  45  
 Ile Gln Phe Leu Lys Glu Ile Lys Pro Leu Val Asp Ala Glu Lys Asn  
                   50                                  55                                  60  
 Asn Leu Leu Thr Leu Ile Asn Lys Lys Ile Pro Ile Pro Glu Asn Tyr  
                   65                                  70                                  75                                  80  
 Lys Ile Pro Asp Leu Val Asn Ile Asp Asp Phe Glu Asp Leu Lys Asn  
                                   85                                  90                                  95  
 Leu Gly Ala Lys Thr Ile Lys Val Arg Lys Ile Leu Ile Glu Asp Leu  
                                   100                                  105                                  110  
 Ile Arg Leu Ile Lys Asp Ala Lys Lys Phe Gly Ile Glu Ile Lys Ile  
                   115                                  120                                  125  
 Lys Ser Ala Tyr Arg Thr Gln Glu Tyr Gln Lys Phe Leu Phe Asp Tyr  
                   130                                  135                                  140  
 Asn Val Lys Thr Tyr Gly Arg Lys Val Ala Glu Thr Gln Ser Ala Ile  
                   145                                  150                                  155                                  160  
 Pro Gly His Ser Gln His His Met Gly Thr Ala Ile Asp Phe Ile Asn  
                                   165                                  170                                  175  
 Ile Asp Asp Asn Leu Leu Asn Thr Lys Glu Gly Lys Trp Leu Tyr Glu  
                                   180                                  185                                  190  
 Asn Ser Leu Lys Tyr Gly Phe Ser Val Ser Tyr Pro Lys Gly Tyr Glu  
                   195                                  200                                  205  
 Thr Asp Thr Gly Tyr Lys Ala Glu Pro Trp His Tyr Leu Tyr Ile Gly  
                   210                                  215                                  220  
 Pro Lys Pro Cys Phe Ile Gln Lys Lys Tyr Phe Asn Asn Leu Gln His  
                   225                                  230                                  235                                  240  
 Lys Leu Leu Glu Phe Trp Asn Gln Asn Lys Thr Asn Leu Ile Asn Leu  
                                   245                                  250                                  255  
 Ile Glu Lys Tyr Ala Asn Glx  
                                   260

&lt;210&gt; 461

&lt;211&gt; 245

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 461

Asn Asn Ile Ser Lys Lys Asp Leu Glu Val Leu Leu Lys Ile Ala Gln  
                   1                                  5                                  10                                  15

Ala Met Asn Lys Glu Cys Lys Asn Phe Ile Glu Lys Asn Pro Ile Gln

20 25 30  
 Phe Leu Lys Glu Ile Lys Pro Leu Val Asp Ala Glu Lys Asn Asn Leu  
 35 40 45  
 Leu Thr Leu Ile Asn Lys Lys Ile Pro Ile Pro Glu Asn Tyr Lys Ile  
 50 55 60  
 Pro Asp Leu Val Asn Ile Asp Asp Phe Glu Asp Leu Lys Asn Leu Gly  
 65 70 75 80  
 Ala Lys Thr Ile Lys Val Arg Lys Ile Leu Ile Glu Asp Leu Ile Arg  
 85 90 95  
 Leu Ile Lys Asp Ala Lys Lys Phe Gly Ile Glu Ile Lys Ile Lys Ser  
 100 105 110  
 Ala Tyr Arg Thr Gln Glu Tyr Gln Lys Phe Leu Phe Asp Tyr Asn Val  
 115 120 125  
 Lys Thr Tyr Gly Arg Lys Val Ala Glu Thr Gln Ser Ala Ile Pro Gly  
 130 135 140  
 His Ser Gln His His Met Gly Thr Ala Ile Asp Phe Ile Asn Ile Asp  
 145 150 155 160  
 Asp Asn Leu Leu Asn Thr Lys Glu Gly Lys Trp Leu Tyr Glu Asn Ser  
 165 170 175  
 Leu Lys Tyr Gly Phe Ser Val Ser Tyr Pro Lys Gly Tyr Glu Thr Asp  
 180 185 190  
 Thr Gly Tyr Lys Ala Glu Pro Trp His Tyr Leu Tyr Ile Gly Pro Lys  
 195 200 205  
 Pro Cys Phe Ile Gln Lys Lys Tyr Phe Asn Asn Leu Gln His Lys Leu  
 210 215 220  
 Leu Glu Phe Trp Asn Gln Asn Lys Thr Asn Leu Ile Asn Leu Ile Glu  
 225 230 235 240  
 Lys Tyr Ala Asn Glx  
 245

&lt;210&gt; 462

&lt;211&gt; 789

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 462

atgaaatcaa tttatgcttt attatttcta tttattaatt tatctttggt ggctaacaac 60  
 atttcaaaaa aagatttaga agtactgcta aagattgccc aagcaatgaa taaggaatgc 120  
 aaaaatttta ttgaaaaaaa tcctattcag ttcttaaaag aaataaaacc cttagtagat 180  
 gcagaaaaaa ataacctctt aactctaata aataaaaaaa taccaattcc tgaaaattat 240  
 aaaatacctg atctggtaaa tattgatgat ttgaagatc ttaaaaatct tggagcaaag 300  
 actattaaag taagaaaaat attaatcgaa gatttaattc gactaataaa agatgcaaaa 360  
 aaatttggga ttgaaattaa aatcaaatct gcttacagaa cgcaagaata tcaaaaattt 420  
 ttatttgatt acaatgtcaa aacttatggc agaaaagttg cagaaacca atcagcaatt 480

```

ccaggccatt ctcaacatca tatgggaaca gcaatagatt ttataaatat agatgataat 540
ttactaaaca caaaagaagg aaaatggctt tatgaaaact ctctaaaata cggattttcc 600
gtttcatacc caaaaggata tgaaacggac actggatata aagcagagcc ttggcactac 660
ttatacatag gacctaagcc atgctttatt cagaaaaaat attttaataa ttacaacat 720
aagcttcttg aattttggaa ccagaacaaa acaaatctta ttaaccta at tgaaaaatat 780
gcaaaactaa 789

```

&lt;210&gt; 463

&lt;211&gt; 735

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 463

```

aacaacatct caaaaaaaga tttagaagta ctgctaaaga ttgccaagc aatgaataag 60
gaatgcaaaa atttttattga aaaaaatcct attcagttct taaaagaaat aaaaccctta 120
gtagatgcag aaaaaaataa cctcttaact ctaataaata aaaaaatacc aattcctgaa 180
aattataaaa tacctgatct ggtaaatatt gatgattttg aagatcttaa aaatcttgga 240
gcaaagacta ttaaagtaag aaaaatatta atcgaagatt taattcgact aataaaagat 300
gcaaaaaaat ttgggattga aattaaaatc aaatctgctt acagaacgca agaatatcaa 360
aaatttttat ttgattacaa tgtcaaaact tatggcagaa aagttgcaga aacccaatca 420
gcaattccag gccattctca acatcatatg ggaacagcaa tagattttat aaatatagat 480
gataatttac taaacacaaa agaaggaaaa tggctttatg aaaactctct aaaatacggg 540
ttttccgttt cataccctaa aggatatgaa acggacactg gatataaagc agagccttgg 600
cactacttat acataggacc taagccatgc tttattcaga aaaaatattt taataattta 660
caacataagc ttcttgaatt ttggaaccag aacaaaacaa atcttattaa cctaattgaa 720
aaatatgcaa actaa 735

```

&lt;210&gt; 464

&lt;211&gt; 182

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 464

```

Met Leu Tyr Leu Gly Asp Asn Lys Ala Met Arg Thr Lys Ile Ile Ile
  1           5           10           15

Met Thr Ile Ile Ile Leu Leu Ala Pro Ile Ser Gly Phe Ser Asn Ser
      20           25           30

Lys Glu Ser Ala Arg Gly Lys Phe Gly Ala Gly Ile Ile Leu Pro Leu
      35           40           45

Pro Ile Ala Leu Gln Ile Asn Ile Gly Asn Phe Asp Leu Asp Ile Gly
      50           55           60

Leu Tyr Ser Gly Val Asn Asn Leu Phe Ser Asp Trp Lys Thr Leu Phe
      65           70           75           80

Ile Ala Leu Asp Tyr Ile Phe Tyr Ile Tyr Thr Phe Pro Gly Ala Ala
      85           90           95

Asn Ile Leu Asp Phe Ser Val Gly Ala Gly Gly Tyr Gly Thr Ile Trp
      100          105          110

Phe Ser Arg Phe Gly Gly Ser Lys Ser Gly Ser Gly Pro Met Ser Ile
      115          120          125

Gly Ala Arg Leu Pro Leu Ala Leu Asn Ile Ala Val Phe Arg Lys Lys

```

130                      135                      140  
 Phe Asp Ile Phe Leu Arg Ile Ala Pro Gly Leu Gly Met Asn Val Trp  
 145                      150                      155                      160  
 Ser Asn Gly Val Gly Phe Arg Trp Glu Val Phe Ala Gly Leu Gly Leu  
                     165                      170                      175  
 Arg Phe Trp Phe Thr Glx  
                     180  
 <210> 465  
 <211> 160  
 <212> PRT  
 <213> Homo sapiens  
 <400> 465  
 Leu Ala Pro Ile Ser Gly Phe Ser Asn Ser Lys Glu Ser Ala Arg Gly  
   1                    5                    10                    15  
 Lys Phe Gly Ala Gly Ile Ile Leu Pro Leu Pro Ile Ala Leu Gln Ile  
                     20                    25                    30  
 Asn Ile Gly Asn Phe Asp Leu Asp Ile Gly Leu Tyr Ser Gly Val Asn  
                     35                    40                    45  
 Asn Leu Phe Ser Asp Trp Lys Thr Leu Phe Ile Ala Leu Asp Tyr Ile  
                     50                    55                    60  
 Phe Tyr Ile Tyr Thr Phe Pro Gly Ala Ala Asn Ile Leu Asp Phe Ser  
   65                    70                    75                    80  
 Val Gly Ala Gly Gly Tyr Gly Thr Ile Trp Phe Ser Arg Phe Gly Gly  
                     85                    90                    95  
 Ser Lys Ser Gly Ser Gly Pro Met Ser Ile Gly Ala Arg Leu Pro Leu  
                     100                    105                    110  
 Ala Leu Asn Ile Ala Val Phe Arg Lys Lys Phe Asp Ile Phe Leu Arg  
                     115                    120                    125  
 Ile Ala Pro Gly Leu Gly Met Asn Val Trp Ser Asn Gly Val Gly Phe  
                     130                    135                    140  
 Arg Trp Glu Val Phe Ala Gly Leu Gly Leu Arg Phe Trp Phe Thr Glx  
   145                    150                    155                    160

<210> 466  
 <211> 546  
 <212> DNA  
 <213> Homo sapiens

<400> 466  
 atgctatact taggagataa taaagcaatg agaacaaaaa taattattat gacaattatt 60  
 attttattag ccccaatctc aggatcttct aattcaaaag aatctgcaag gggtaaattt 120

```

ggagcaggaa ttatacttcc attaccaatt gctctacaga ttaatatagg aaactttgat 180
cttgacattg gtcttttacag cggagtaaatt aatttggttt cagactggaa aacattat 240
atagcattag actatatttt ctacatatat acattcccgg gagctgctaa tttttggat 300
ttttcagttg gcgcaggggg atatggaaca atatggtttt caagatttgg aggcagtaag 360
tcaggctcag gaccaatgag cattggagca agattgcctt tggccttaaa tattgcagta 420
tttaggaaga aattcgacat atttttacga atagcaccgg gacttggaat gaatgtttg 480
agtaatggcg ttggatttag atgggaagta ttcgcaggat tgggactaag attctgggtt 540
acttaa 546

```

&lt;210&gt; 467

&lt;211&gt; 480

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 467

```

ttagcccaaa tctcaggatt ttctaattca aaagaatctg caaggggttaa atttgagca 60
ggaattatac ttccattacc aattgctcta cagattaata taggaaactt tgatcttgac 120
attggtcttt acagcggagt aaataatttg ttttcagact ggaaaacatt atttatagca 180
ttagactata ttttctacat atacacattc ccgggagctg ctaatatattt ggatttttca 240
gttggcgcag ggggatatgg aacaatatgg ttttcaagat ttggaggcag taagtcaggc 300
tcaggaccaa tgagcattgg agcaagattg cctttggcct taaatattgc agtatttagg 360
aagaaattcg acatattttt acgaatagca cccggacttg gaatgaatgt ttggagtaat 420
ggcgttggat ttagatggga agtattcgca ggattgggac taagattctg gtttacttaa 480

```

&lt;210&gt; 468

&lt;211&gt; 210

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 468

```

Met Asn Lys Thr Lys Asn Arg Ser Leu Thr Tyr Phe Ile Ile Leu Ser
  1           5           10           15

```

```

Cys Ile Ser Leu Phe Gly Ala Asn Asn Asn Thr Ile Ser Tyr Ser Ser
      20           25           30

```

```

Ile Glu Ile Pro Leu Glu Asp Leu Ser Glu Glu Phe Lys Ser Ser Gly
      35           40           45

```

```

Asn Lys Ser Asp Gln Ile Asn Thr Ser Lys His Leu Asn Lys Asn Ile
      50           55           60

```

```

Val Ser Tyr Glu Asp Pro Lys Lys Gly Lys Asp Leu Lys Leu Pro Glu
      65           70           75           80

```

```

Asn Ile Arg Asp Lys Lys Leu Pro Gln Lys Arg Met Asp Glu Asn Asp
      85           90           95

```

```

Leu Lys Ser Val Ile Glu Asn Tyr Glu Asn Lys Ile Lys Asn Ile Glu
      100          105          110

```

```

Lys Leu Leu Lys Thr Lys Asn Gln Lys Thr Ser Glu Asn Glu Asn Lys
      115          120          125

```

```

Lys Ile Glu Ser Ile Glu Lys Lys Ala Lys Lys Tyr Glu Ile Leu Thr
      130          135          140

```

```

Asn Lys Leu Lys Asn Glu Ile Val Glu Ile Lys Lys Leu Leu Asn Lys

```

```
<210> 469
<211> 194
<212> PRT
<213> Homo sapiens
```

Ile Glu Ile Pro Leu Glu Asp Leu Ser Glu Glu Phe Lys Ser Ser Gly  
20 25 30

Val Ser Tyr Glu Asp Pro Lys Lys Gly Lys Asp Leu Lys Leu Pro Glu  
50 55 60

Leu Lys Ser Val Ile Glu Asn Tyr Glu Asn Lys Ile Lys Asn Ile Glu  
85 90 95

Lys Ile Glu Ser Ile Glu Lys Lys Ala Lys Lys Tyr Glu Ile Leu Thr  
115 120 125

Lys Ile Lys Pro Lys Glu Asp Glu Asn Tyr Glu Lys Ile Asn Ile Glu  
145 150 155 160

Asn Asp Glu Ile Glu Glu Gln Met Arg Thr Ile Thr Leu Leu Met Lys  
180 185 190

Glu Glx

<210> 470  
 <211> 630  
 <212> DNA  
 <213> Homo sapiens

<400> 470  
 atgaataaaa caaaaaatcg aagccttacg tattttataa tactttcatg tatatcatta 60  
 tttgggggcta ataataatac aataagctac tctagcattg aaattcctct agaagactta 120  
 agtgaagaat ttaaaagtgc tgggaataaa agcgatcaa taaatacctc aaaacattta 180  
 aacaaaaaca tagtttctta tgaagaccca aaaaagggtg aagatctaaa attgccagaa 240  
 aatataagag acaaaaaact accccaaaaa agaatggacg aaaatgatct aaaatctgta 300  
 attgaaaatt atgaaaataa aattaaaaac atagaaaagc ttttaaaaaac caaaaatcaa 360  
 aaaacatcgg aaaaatgaaaa taaaaaaata gaatcaatcg aaaaaaaagc aaaaaaatat 420  
 gaaattttta ccaataaatt aaaaaacgaa atagtagaaa taaaaaagct ccttaacaaa 480  
 aaaaatcaagc ctaaaagaaga tgaaaattac gaaaaaataa atattgaaaa cattgaagaa 540  
 gaaactgatg atgattttga agacaattat gaataaatg atgaaattga agaacaaatg 600  
 aggacaatta cccttctaata gaaggaataa 630

<210> 471  
 <211> 582  
 <212> DNA  
 <213> Homo sapiens

<400> 471  
 tgtatatcat tatttggggc taataataat acaataagct actctagcat tgaaattcct 60  
 ctagaagact taagtgaaga atttaaaagt tctgggaata aaagcgatca aataaatacc 120  
 tcaaaacatt taaacaaaaa catagtctct tatgaagacc caaaaaaggg taaagatcta 180  
 aaattgccag aaaatataag agacaaaaaa ctaccccaaa aaagaatgga cgaaaatgat 240  
 ctaaaatctg taattgaaaa ttatgaaaat aaaattaaaa acatagaaaa gcttttaaaa 300  
 accaaaaatc aaaaaacatc ggaaaatgaa aataaaaaaa tagaatcaat cgaaaaaaa 360  
 gcaaaaaaat atgaaatttt aaccaataaa ttaaaaaacg aaatagtaga aataaaaaag 420  
 ctcttaaca aaaaaatcaa gcctaaagaa gatgaaaatt acgaaaaaat aaatattgaa 480  
 aacattgaag aagaaactga tgatgatttt gaagacaatt atgaatataa tgatgaaatt 540  
 gaagaacaaa tgaggacaat tacccttcta atgaaggaat aa 582

<210> 472  
 <211> 553  
 <212> PRT  
 <213> Homo sapiens

<400> 472  
 Met Gln Ile Asp Gly Lys Ile Tyr Ser Ile Ile Ser Phe Pro Val Arg  
 1 5 10 15  
 Asp Ser Val Ser Thr Leu Gly Val Ile Gly Ile Leu Ile Cys Phe Asp  
 20 25 30  
 Glu Ser Leu Asp Ile Ile Glu Asn Gln Leu Tyr Ser Ser Leu Lys Phe  
 35 40 45  
 Gly Ser Lys Asn Tyr Asn Phe Phe Met Leu Asp Arg Asn Tyr Met Pro  
 50 55 60  
 Ile Phe Ser Asn Leu Asn Asn Leu Gln Ala Lys Ser Phe Ser Thr Ala  
 65 70 75 80  
 Tyr Ser Glu Asn Phe Leu Ser Lys Val Ile Ala Tyr Ala Lys Lys Asp



85										90					95				
Ser	Ser	Ser	Ser	Gln	Tyr	Thr	Phe	Asn	Tyr	Glu	Arg	Asp	Phe	Tyr	Ser				
			100					105					110						
Leu	Asn	Phe	Val	Lys	Thr	Asp	Asp	Phe	Leu	Thr	Gln	Gly	Leu	Ile	Leu				
		115					120					125							
Asn	Val	Asn	Ser	Ile	Pro	Ile	Met	Phe	Lys	Ser	Asn	Trp	Val	Ile	Phe				
	130					135					140								
Val	Ala	Phe	Leu	Leu	Leu	Ser	Phe	Ala	Ile	Ile	Phe	Tyr	Leu	Cys	Asn				
145					150					155					160				
Thr	Phe	Val	Phe	Ser	Leu	Ile	Asn	Asp	Phe	Asn	Arg	Ile	Val	Asp	Tyr				
				165					170					175					
Gln	Lys	Ser	Lys	Ser	Asp	Pro	Phe	Ser	Leu	Glu	Ser	Pro	Leu	Glu	Val				
			180					185					190						
Lys	Tyr	Ser	Ser	Ser	Ile	Ile	Ser	Tyr	Ile	Ser	Ser	Lys	Leu	Asp	Asn				
		195					200					205							
Leu	Ser	Ser	Lys	Ser	Asn	Glu	Ser	Phe	Glu	Lys	Ile	Lys	Phe	Tyr	Ser				
	210					215						220							
Glu	Asp	Leu	Asn	Glu	Tyr	Leu	Glu	Gln	Ile	Glu	Thr	Ala	Ile	Ser	Asn				
225					230					235					240				
Thr	Glu	Ser	Ile	Asp	Ser	Ser	Ile	Leu	Val	Tyr	Glu	Gln	Leu	Arg	Asp				
				245					250					255					
Thr	Phe	Ser	Arg	Phe	Glu	Lys	Ser	Ile	Val	Asp	Ile	Leu	Lys	Gly	Phe				
			260					265					270						
Glu	Ser	Ile	Ala	Asp	Pro	Ile	Asn	Asp	His	Asn	Lys	Tyr	Ile	Ser	Glu				
		275					280					285							
Ile	Ser	Ser	Asn	Phe	Glu	Glu	Ser	Val	Ser	Phe	Phe	Tyr	Ser	Ile	Asp				
	290					295					300								
Lys	Asn	Leu	Glu	Ile	Phe	Asn	Lys	Val	Ala	Thr	Ile	Asn	Ser	Thr	Asp				
305					310					315					320				
Ile	Glu	Asn	Ile	Lys	Ser	Lys	Val	Phe	Asp	Leu	Asn	Ile	Val	Phe	Glu				
				325					330					335					
Asn	Val	Asn	Lys	Asn	Phe	Ala	Asp	Leu	Leu	Ser	Gln	Thr	Asn	Ser	Leu				
			340					345					350						
Gln	Ser	Val	Asn	Lys	Leu	Leu	Val	Ser	Ile	Ser	Ala	Gln	Thr	Asn	Met				
		355					360					365							
Leu	Ala	Met	Asn	Ala	Ala	Ile	Glu	Ala	Ala	Lys	Ala	Gly	Asp	Ala	Gly				
		370				375					380								
Lys	Ser	Phe	Ala	Val	Val	Ala	Glu	Glu	Ile	Arg	Lys	Leu	Ala</						

Ser Gly Lys Tyr Ser Lys Thr Ile Lys Asp Glu Leu Lys Thr Val Asp  
405 410 415

Ser Ile Ile Ala Val Ile Asn Ser Glu Ile Asp Thr Ile Tyr Lys Asn  
420 425 430

Phe Ile Asp Ile Gln Asp Asn Val Asp Asn Asn Phe Ser Arg His Glu  
435 440 445

Lys Val Asp Leu Thr Leu Ala Lys His Phe Lys Glu Ile Gly Glu Phe  
450 455 460

Lys Glu Arg Tyr Leu Ser His Asp Thr Lys Ile Arg Asp Ala Lys Asn  
465 470 475 480

Met Tyr Lys Glu Ile Phe Asn Asn His Tyr Phe Ile Ser Gly Lys Phe  
485 490 495

Asn Asn Phe Ser Gln Asp Leu Lys Glu Phe Lys Val Ser Lys Met Asn  
500 505 510

Leu Asp Ala Val Ser Ser Leu Gln Glu Tyr Ser Ser Leu Val Lys Ser  
515 520 525

Ser Lys Asp Lys Ile Leu Lys Thr Lys Glu Leu Ile Gln Lys Ile Asn  
530 535 540

Asp Glu Ile Lys Asp Ile Leu Phe Glx  
545 550

<210> 473

<211> 524

<212> PRT

<213> Homo sapiens

<400> 473

Cys Phe Asp Glu Ser Leu Asp Ile Ile Glu Asn Gln Leu Tyr Ser Ser  
1 5 10 15

Leu Lys Phe Gly Ser Lys Asn Tyr Asn Phe Phe Met Leu Asp Arg Asn  
20 25 30

Tyr Met Pro Ile Phe Ser Asn Leu Asn Asn Leu Gln Ala Lys Ser Phe  
35 40 45

Ser Thr Ala Tyr Ser Glu Asn Phe Leu Ser Lys Val Ile Ala Tyr Ala  
50 55 60

Lys Lys Asp Ser Ser Ser Ser Gln Tyr Thr Phe Asn Tyr Glu Arg Asp  
65 70 75 80

Phe Tyr Ser Leu Asn Phe Val Lys Thr Asp Asp Phe Leu Thr Gln Gly  
85 90 95

Leu Ile Leu Asn Val Asn Ser Ile Pro Ile Met Phe Lys Ser Asn Trp  
100 105 110

Val Ile Phe Val Ala Phe Leu Leu Leu Ser Phe Ala Ile Ile Phe Tyr  
 115 120 125  
 Leu Cys Asn Thr Phe Val Phe Ser Leu Ile Asn Asp Phe Asn Arg Ile  
 130 135 140  
 Val Asp Tyr Gln Lys Ser Lys Ser Asp Pro Phe Ser Leu Glu Ser Pro  
 145 150 155 160  
 Leu Glu Val Lys Tyr Ser Ser Ser Ile Ile Ser Tyr Ile Ser Ser Lys  
 165 170 175  
 Leu Asp Asn Leu Ser Ser Lys Ser Asn Glu Ser Phe Glu Lys Ile Lys  
 180 185 190  
 Phe Tyr Ser Glu Asp Leu Asn Glu Tyr Leu Glu Gln Ile Glu Thr Ala  
 195 200 205  
 Ile Ser Asn Thr Glu Ser Ile Asp Ser Ser Ile Leu Val Tyr Glu Gln  
 210 215 220  
 Leu Arg Asp Thr Phe Ser Arg Phe Glu Lys Ser Ile Val Asp Ile Leu  
 225 230 235 240  
 Lys Gly Phe Glu Ser Ile Ala Asp Pro Ile Asn Asp His Asn Lys Tyr  
 245 250 255  
 Ile Ser Glu Ile Ser Ser Asn Phe Glu Glu Ser Val Ser Phe Phe Tyr  
 260 265 270  
 Ser Ile Asp Lys Asn Leu Glu Ile Phe Asn Lys Val Ala Thr Ile Asn  
 275 280 285  
 Ser Thr Asp Ile Glu Asn Ile Lys Ser Lys Val Phe Asp Leu Asn Ile  
 290 295 300  
 Val Phe Glu Asn Val Asn Lys Asn Phe Ala Asp Leu Leu Ser Gln Thr  
 305 310 315 320  
 Asn Ser Leu Gln Ser Val Asn Lys Leu Leu Val Ser Ile Ser Ala Gln  
 325 330 335  
 Thr Asn Met Leu Ala Met Asn Ala Ala Ile Glu Ala Ala Lys Ala Gly  
 340 345 350  
 Asp Ala Gly Lys Ser Phe Ala Val Val Ala Glu Glu Ile Arg Lys Leu  
 355 360 365  
 Ala Ile Asn Ser Gly Lys Tyr Ser Lys Thr Ile Lys Asp Glu Leu Lys  
 370 375 380  
 Thr Val Asp Ser Ile Ile Ala Val Ile Asn Ser Glu Ile Asp Thr Ile  
 385 390 395 400  
 Tyr Lys Asn Phe Ile Asp Ile Gln Asp Asn Val Asp Asn Asn Phe Ser  
 405 410 415  
 Arg His Glu Lys Val Asp Leu Thr Leu Ala Lys His Phe Lys Glu Ile

420                      425                      430  
 Gly Glu Phe Lys Glu Arg Tyr Leu Ser His Asp Thr Lys Ile Arg Asp  
                     435                      440                      445  
 Ala Lys Asn Met Tyr Lys Glu Ile Phe Asn Asn His Tyr Phe Ile Ser  
                     450                      455                      460  
 Gly Lys Phe Asn Asn Phe Ser Gln Asp Leu Lys Glu Phe Lys Val Ser  
                     465                      470                      475                      480  
 Lys Met Asn Leu Asp Ala Val Ser Ser Leu Gln Glu Tyr Ser Ser Leu  
                     485                      490                      495  
 Val Lys Ser Ser Lys Asp Lys Ile Leu Lys Thr Lys Glu Leu Ile Gln  
                     500                      505                      510  
 Lys Ile Asn Asp Glu Ile Lys Asp Ile Leu Phe Glx  
                     515                      520

&lt;210&gt; 474

&lt;211&gt; 1659

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 474

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&lt;210&gt; 475

&lt;211&gt; 1572

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 475

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attctttttt ag 1572

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&lt;210&gt; 476

&lt;211&gt; 167

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 476

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Gly Asp Gly Ile Ala Ile Leu Pro Thr Ser Asn Glu Leu Leu Ala Pro
      20             25             30

Cys Asp Gly Lys Ile Gly Lys Ile Phe Lys Thr Asn His Ala Phe Ser
      35             40             45

Leu Glu Thr Lys Glu Gly Val Glu Ile Phe Val His Phe Gly Ile Asn
      50             55             60

Thr Leu Asn Leu Asn Gly Lys Gly Phe Thr Arg Val Ala Glu Glu Gly
      65             70             75             80

Ile Asn Val Lys Gln Gly Glu Val Ile Ile Arg Leu Asp Leu Glu Tyr
      85             90             95

Leu Lys Glu His Ser Glu Ser Val Ile Thr Pro Val Val Ile Ala Asn
      100            105            110

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Ser Asp Glu Val Ser Ser Ile Glu Tyr Ser Phe Gly Arg Leu Glu Asn  
115 120 125

Asp Ser Glu Tyr Ile Leu Ser Ser Ser Thr Val Leu Thr Glu Glu Ile  
130 135 140

Arg His Lys Ile Ser Gln Thr Lys Pro Val Ile Ala Gly Lys Asp Leu  
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Val Leu Arg Val Lys Lys Glx  
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<210> 477

<211> 135

<212> PRT

<213> Homo sapiens

<400> 477

Cys Asp Gly Lys Ile Gly Lys Ile Phe Lys Thr Asn His Ala Phe Ser  
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Leu Glu Thr Lys Glu Gly Val Glu Ile Phe Val His Phe Gly Ile Asn  
20 25 30

Thr Leu Asn Leu Asn Gly Lys Gly Phe Thr Arg Val Ala Glu Glu Gly  
35 40 45

Ile Asn Val Lys Gln Gly Glu Val Ile Ile Arg Leu Asp Leu Glu Tyr  
50 55 60

Leu Lys Glu His Ser Glu Ser Val Ile Thr Pro Val Val Ile Ala Asn  
65 70 75 80

Ser Asp Glu Val Ser Ser Ile Glu Tyr Ser Phe Gly Arg Leu Glu Asn  
85 90 95

Asp Ser Glu Tyr Ile Leu Ser Ser Ser Thr Val Leu Thr Glu Glu Ile  
100 105 110

Arg His Lys Ile Ser Gln Thr Lys Pro Val Ile Ala Gly Lys Asp Leu  
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Val Leu Arg Val Lys Lys Glx  
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<210> 478

<211> 501

<212> DNA

<213> Homo sapiens

<400> 478

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tttaaaacca atcatgcctt tagccttgaa actaaagagg gcgttgaaat tttgtccat 180  
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attaatgtta aacaaggtga agttattatt aggcttgatc ttgaatattt aaaagagcat 300  
tcagaatccg ttattactcc ggttggttatt gcaaattctg atgaagtttc aagtatagaa 360  
tattcttttg gaaggcttga aaatgattct gaatatattt tatcatcttc aactgtcttg 420

acagaagaaa ttaggcataa aatatctcaa acaaagcctg ttatagcggg caaagatttg 480  
gtgttgcgag ttaaaaagta a 501

<210> 479

<211> 405

<212> DNA

<213> Homo sapiens

<400> 479

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tttacaagag ttgctgaaga gggcattaat gttaaacaag gtgaagttat tattaggctt 180  
gatcttgaat atttaaaaga gcattcagaa tccgttatta ctccggttgt tattgcaa 240  
tctgatgaag tttcaagtat agaattattct tttggaaggc ttgaaaatga ttctgaatat 300  
attttatcat cttcaactgt cttgacagaa gaaattaggc ataaaatatc tcaaacaaag 360  
cctgttatag cgggcaaaga tttggtgttg cgagttaaaa agtaa 405

<210> 480

<211> 719

<212> PRT

<213> Homo sapiens

<400> 480

Met Asn Tyr Gln Arg Ile Lys Asn Tyr Cys Lys Phe Thr Ser Val Phe  
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Leu Phe Phe Leu Phe Ser Cys Val Ser Asn Glu Leu Lys Leu Asp Gln  
20 25 30

Ser Leu Val Lys Gly Lys Leu Val Asn Gly Leu Arg Tyr Tyr Ile Tyr  
35 40 45

Lys Asn Gln Thr Pro Lys Asn Ala Val Asn Met Gly Ile Val Phe Asn  
50 55 60

Val Gly Ser Leu Asn Glu Glu Asp Asn Glu Arg Gly Ile Ala His Tyr  
65 70 75 80

Leu Glu His Met Ala Phe Asn Gly Thr Lys Asp Tyr Pro Gly Asn Ser  
85 90 95

Ile Val Asp Val Leu Lys Lys Phe Gly Met Gln Phe Gly Ala Asp Ile  
100 105 110

Asn Ala Ala Thr Ser Phe Asp Phe Thr Tyr Tyr Arg Leu Asp Leu Ser  
115 120 125

Asp Gly Asn Asn Lys Asp Glu Ile Asp Glu Ser Ile Asn Ile Leu Arg  
130 135 140

Asn Trp Ala Ser Gln Ile Ser Phe Met Lys Glu Glu Ile Asp Leu Glu  
145 150 155 160

Arg Asn Ile Ile Ile Glu Glu Lys Lys Leu Gly Glu Thr Tyr Pro Gly  
165 170 175

Arg Ile Tyr Glu Lys Met Asp Lys Phe Leu Thr Ser Gly Ser Leu Tyr  
180 185 190

Glu Phe Arg Ser Pro Ile Gly Leu Glu Glu Gln Ile Leu Ser Phe Gln  
 195 200 205  
 Pro Glu Asp Phe Lys Lys Phe Tyr Arg Lys Trp Tyr Arg Pro Glu Leu  
 210 215 220  
 Ala Ser Val Ile Val Val Gly Asp Ile Asp Pro Ile Glu Ile Glu Glu  
 225 230 235 240  
 Lys Ile Lys Lys Gln Phe Val Ser Trp Lys Asn Pro Thr Asp Lys Ile  
 245 250 255  
 Lys Glu Val Lys Val Ser Leu Asp Val Glu Leu Lys Asp Lys Phe Leu  
 260 265 270  
 Leu Leu Glu Asp Leu Glu Val Gly Glu Pro Ser Leu Met Phe Phe Lys  
 275 280 285  
 Lys Glu Ile Ile Asn Phe Val Lys Thr Lys Asp Asp Leu Leu Asn Ala  
 290 295 300  
 Ile Lys Lys Ser Leu Leu Ala Ala Leu Phe Glu Asn Arg Phe Ser Glu  
 305 310 315 320  
 Leu Lys Thr Ala Gly Val Lys Gln Phe Lys Asn Val Ser Asn Lys Asp  
 325 330 335  
 Phe Phe Ser Phe Lys Ser Asp Asn Asn Thr Ile Val Ala Lys Ser Ile  
 340 345 350  
 Ser Leu Asn Phe Asn Pro Asp His Leu Asn Glu Gly Ile Gln Asp Phe  
 355 360 365  
 Phe Tyr Glu Leu Glu Arg Ile Arg Lys Phe Gly Phe Thr Gln Gly Glu  
 370 375 380  
 Leu Glu Lys Val Arg Ser Gln Phe Tyr Lys Ser Leu Glu Leu Arg Lys  
 385 390 395 400  
 Lys Asn Ile Asn Lys Thr Asn Ser Trp Ala Ile Phe Gln Asp Leu Ile  
 405 410 415  
 Glu Ile Ala Ile Asn Gly Ser Asn Lys Phe Asp Met Asn Glu Tyr Cys  
 420 425 430  
 Asp Leu Ser Phe Gln Tyr Leu Glu Lys Ile Asp Leu Lys Thr Ile Asn  
 435 440 445  
 Asn Leu Val Gly Arg Glu Phe Asp Val Lys Asn Cys Ala Ile Phe Tyr  
 450 455 460  
 Ser Tyr His Gly Arg Ala His Pro Val Leu Thr Leu Glu Asp Ile Asp  
 465 470 475 480  
 Asn Leu Gln Lys Ile Ala Leu Lys Arg Glu Leu Lys Pro Tyr Glu Asn  
 485 490 495



Ser Leu Ile Glu Gly Lys Phe Phe Lys Lys Ser Leu Asp Asp Lys Asp  
500 505 510

Ile Ile Arg Glu Asn Glu Phe Glu Asn Glu Ile Ser Ser Phe Val Leu  
515 520 525

Glu Asn Gly Val Glu Val Tyr Phe Lys Tyr Asn Asp Gln Lys Lys Gly  
530 535 540

Val Ile Asp Phe Ser Ala Thr Ser Trp Gly Gly Leu Ile Asn Glu Asp  
545 550 555 560

Leu Lys Leu Ile Pro Val Leu Ser Phe Ala Pro Gly Val Val Ser Gly  
565 570 575

Ser Gly Tyr Gly Asp Tyr Ser Ala Leu Gln Ile Glu Lys Tyr Leu Ser  
580 585 590

Asp Lys Ala Val Ser Leu Arg Val Gly Val Gly Ala Gln Glu Ser Tyr  
595 600 605

Ile Ser Gly Ser Ser Asp Lys Lys Asp Leu Glu Thr Leu Phe Gln Leu  
610 615 620

Ile Tyr Phe Thr Phe Lys Glu Pro Lys Ile Asp Asp Val Ser Leu Gln  
625 630 635 640

Asn Ala Ile Asn Asn Ile Lys Ala Leu Ile Lys Ser Asn Glu Asn Ser  
645 650 655

Ser Asp Tyr His Phe His Lys Ala Ile Ser Lys Phe Leu Asn Asn Asn  
660 665 670

Asp Pro Arg Phe Glu Asp Thr Lys Asp Ser Asp Leu Gln Tyr Phe Thr  
675 680 685

Lys Glu Asn Ile Leu Ser Phe Tyr Lys Lys Arg Phe Thr Tyr Ala Asn  
690 695 700

Asn Phe Lys Phe Val Leu Leu Glu Thr Gln Ile Phe Arg Gln Glx  
705 710 715

<210> 481

<211> 697

<212> PRT

<213> Homo sapiens

<400> 481

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Asn Ala Val Asn Met Gly Ile Val Phe Asn Val Gly Ser Leu Asn Glu  
35 40 45

Glu Asp Asn Glu Arg Gly Ile Ala His Tyr Leu Glu His Met Ala Phe

50	55	60
Asn Gly Thr Lys Asp Tyr Pro Gly Asn Ser Ile Val Asp Val Leu Lys		
65	70	75 80
Lys Phe Gly Met Gln Phe Gly Ala Asp Ile Asn Ala Ala Thr Ser Phe		
	85	90 95
Asp Phe Thr Tyr Tyr Arg Leu Asp Leu Ser Asp Gly Asn Asn Lys Asp		
	100	105 110
Glu Ile Asp Glu Ser Ile Asn Ile Leu Arg Asn Trp Ala Ser Gln Ile		
	115	120 125
Ser Phe Met Lys Glu Glu Ile Asp Leu Glu Arg Asn Ile Ile Ile Glu		
	130	135 140
Glu Lys Lys Leu Gly Glu Thr Tyr Pro Gly Arg Ile Tyr Glu Lys Met		
	145	150 155 160
Asp Lys Phe Leu Thr Ser Gly Ser Leu Tyr Glu Phe Arg Ser Pro Ile		
	165	170 175
Gly Leu Glu Glu Gln Ile Leu Ser Phe Gln Pro Glu Asp Phe Lys Lys		
	180	185 190
Phe Tyr Arg Lys Trp Tyr Arg Pro Glu Leu Ala Ser Val Ile Val Val		
	195	200 205
Gly Asp Ile Asp Pro Ile Glu Ile Glu Glu Lys Ile Lys Lys Gln Phe		
	210	215 220
Val Ser Trp Lys Asn Pro Thr Asp Lys Ile Lys Glu Val Lys Val Ser		
	225	230 235 240
Leu Asp Val Glu Leu Lys Asp Lys Phe Leu Leu Leu Glu Asp Leu Glu		
	245	250 255
Val Gly Glu Pro Ser Leu Met Phe Phe Lys Lys Glu Ile Ile Asn Phe		
	260	265 270
Val Lys Thr Lys Asp Asp Leu Leu Asn Ala Ile Lys Lys Ser Leu Leu		
	275	280 285
Ala Ala Leu Phe Glu Asn Arg Phe Ser Glu Leu Lys Thr Ala Gly Val		
	290	295 300
Lys Gln Phe Lys Asn Val Ser Asn Lys Asp Phe Phe Ser Phe Lys Ser		
	305	310 315 320
Asp Asn Asn Thr Ile Val Ala Lys Ser Ile Ser Leu Asn Phe Asn Pro		
	325	330 335
Asp His Leu Asn Glu Gly Ile Gln Asp Phe Phe Tyr Glu Leu Glu Arg		
	340	345 350
Ile Arg Lys Phe Gly Phe Thr Gln Gly Glu Leu Glu Lys Val Arg Ser		
	355	360 365

Gln Phe Tyr Lys Ser Leu Glu Leu Arg Lys Lys Asn Ile Asn Lys Thr  
 370 375 380  
 Asn Ser Trp Ala Ile Phe Gln Asp Leu Ile Glu Ile Ala Ile Asn Gly  
 385 390 395 400  
 Ser Asn Lys Phe Asp Met Asn Glu Tyr Cys Asp Leu Ser Phe Gln Tyr  
 405 410 415  
 Leu Glu Lys Ile Asp Leu Lys Thr Ile Asn Asn Leu Val Gly Arg Glu  
 420 425 430  
 Phe Asp Val Lys Asn Cys Ala Ile Phe Tyr Ser Tyr His Gly Arg Ala  
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 His Pro Val Leu Thr Leu Glu Asp Ile Asp Asn Leu Gln Lys Ile Ala  
 450 455 460  
 Leu Lys Arg Glu Leu Lys Pro Tyr Glu Asn Ser Leu Ile Glu Gly Lys  
 465 470 475 480  
 Phe Phe Lys Lys Ser Leu Asp Asp Lys Asp Ile Ile Arg Glu Asn Glu  
 485 490 495  
 Phe Glu Asn Glu Ile Ser Ser Phe Val Leu Glu Asn Gly Val Glu Val  
 500 505 510  
 Tyr Phe Lys Tyr Asn Asp Gln Lys Lys Gly Val Ile Asp Phe Ser Ala  
 515 520 525  
 Thr Ser Trp Gly Gly Leu Ile Asn Glu Asp Leu Lys Leu Ile Pro Val  
 530 535 540  
 Leu Ser Phe Ala Pro Gly Val Val Ser Gly Ser Gly Tyr Gly Asp Tyr  
 545 550 555 560  
 Ser Ala Leu Gln Ile Glu Lys Tyr Leu Ser Asp Lys Ala Val Ser Leu  
 565 570 575  
 Arg Val Gly Val Gly Ala Gln Glu Ser Tyr Ile Ser Gly Ser Ser Asp  
 580 585 590  
 Lys Lys Asp Leu Glu Thr Leu Phe Gln Leu Ile Tyr Phe Thr Phe Lys  
 595 600 605  
 Glu Pro Lys Ile Asp Asp Val Ser Leu Gln Asn Ala Ile Asn Asn Ile  
 610 615 620  
 Lys Ala Leu Ile Lys Ser Asn Glu Asn Ser Ser Asp Tyr His Phe His  
 625 630 635 640  
 Lys Ala Ile Ser Lys Phe Leu Asn Asn Asn Asp Pro Arg Phe Glu Asp  
 645 650 655  
 Thr Lys Asp Ser Asp Leu Gln Tyr Phe Thr Lys Glu Asn Ile Leu Ser  
 660 665 670

Phe Tyr Lys Lys Arg Phe Thr Tyr Ala Asn Asn Phe Lys Phe Val Leu  
 675 680 685

Leu Glu Thr Gln Ile Phe Arg Gln Glx  
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<210> 482  
 <211> 2157  
 <212> DNA  
 <213> Homo sapiens

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<210> 483  
 <211> 2091  
 <212> DNA  
 <213> Homo sapiens

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 tttaatgtgg gtcacttaa tgaagaagat aatgagaggg gaatagcgca ttatcttgaa 180

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gaacttgcaa gtgttattgt ggtaggagat attgatccta tagaaattga agagaagata 660
aagaagcaat ttgtttcttg gaaaaatcca accgataaaa ttaaagaagt aaaagtaagt 720
ttagacgtag agcttaagga taaattttta cttttagaag atttggaggt tggagagcct 780
agtttaattg tctttaaaaa ggaaattatt aactttgtaa agaccaaaga tgacctttta 840
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gataacaata ccattgttgc aaaatcgatt tctttaaact ttaatccaga tcatttgaac 1020
gaaggaatac aagacttttt ttatgagcct gagaggataa gaaaatttgg atttacccaa 1080
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ataataaaaa caaattcatg ggctattttt caggatttaa tagaaattgc tattaatggt 1200
tctaataaat ttgatatgaa tgaatattgc gatctttctt ttcaatattt ggaaaagatt 1260
gatttaaaaa caataaacia tctttagtaga agagagtttg atgtaaaaaa ttgtgcaatt 1320
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caaaagatag ctttaaaaag agagttaaaag ccttatgaga attctttaat tgaaggtaaa 1440
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ggagctcaag aatcatatat ttctggaagt tcagataaaa aagatcttga aactcttttt 1800
cagcttatat attttacttt taaggaaccc aaaattgatg atgtttcttt gcaaatgact 1860
attaataata taaaagcatt aataaagagc aatgaaaata gttctgatta tcattttcat 1920
aaagccatta gtaatttttt aaacaataat gatcctagat ttgaagatac aaaagatagt 1980
gatttgcaat attttacaaa agaaaatatt ttgtcttttt ataagaaaag gtttacttat 2040
gcaataaatt ttaagtttgt cttgctggag actcagatat tcagacaata a 2091

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&lt;210&gt; 484

&lt;211&gt; 285

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 484

```

Met Asp Trp Asp Phe Glu Lys Ile Ile Phe Leu Leu Asn Glu Ser Thr
  1             5             10             15

```

```

Arg Leu Ala Leu Ser Gly Cys Ala Lys Leu Ile Leu Asp Phe Lys Ser
      20             25             30

```

```

Asp Gly Ser Ile Val Thr Gln Val Asp Lys Gln Ile Glu Gln Phe Leu
  35             40             45

```

```

Phe Lys Glu Ile Lys Lys Pro Gly Asn Phe Val Leu Gly Glu Glu Thr
  50             55             60

```

```

Ile Ser Thr Tyr Lys Glu Glu Tyr Ile Lys Asp Ala Leu Ile Ser Glu
  65             70             75             80

```

```

Ser Thr Phe Ile Ile Asp Pro Ile Asp Gly Thr Ser Ser Phe Ala Ala
      85             90             95

```

```

Gly Leu Pro Ser Tyr Gly Ile Ser Leu Ala Tyr Ala Ser Gly Gly Lys

```

100					105					110					
Ile	Ile	Glu	Gly	Ala	Ile	Ser	Leu	Pro	Leu	Ser	Gly	Glu	Phe	Phe	Ile
		115					120					125			
Thr	Ser	Lys	Asp	Asn	Val	Phe	Tyr	Ala	Lys	Lys	Asn	Ile	Gly	Ser	Tyr
	130					135					140				
Pro	Leu	Lys	Lys	Asp	Phe	Asn	Lys	Phe	Ile	Phe	Asp	Asn	Ser	Lys	Cys
	145					150					155				160
Tyr	Asn	Ile	His	Ser	Leu	Leu	Ala	Val	Ser	Arg	Ser	Ile	Ile	Arg	Leu
				165					170					175	
Phe	Asn	Leu	Asp	Ile	Ser	Ser	His	Ile	His	Ile	Asn	Gly	Ser	Cys	Val
			180					185					190		
Tyr	Ser	Phe	Ala	Lys	Leu	Phe	Thr	Gly	Ser	Tyr	Lys	Ala	Tyr	Phe	Ser
		195					200					205			
Phe	Val	Gly	Leu	Trp	Asp	Ile	Ala	Ala	Cys	Leu	Ala	Ile	Gly	Asn	Lys
	210					215					220				
Leu	Gly	Met	Val	Gly	Glu	Phe	Tyr	Cys	Gly	Asn	Lys	Met	Thr	Leu	Asp
	225					230					235				240
Ile	Leu	Asp	Ser	Met	Tyr	Ile	Leu	Glu	Pro	Asn	Asn	His	Lys	Arg	Trp
				245					250					255	
Ser	Leu	Lys	Asp	Phe	Phe	Ile	Tyr	Ser	Asp	Asn	Lys	Ser	Thr	Ile	Asp
			260					265					270		
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		275					280					285			
<210> 485															
<211> 263															
<212> PRT															
<213> Homo sapiens															
<400> 485															
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1				5					10					15	
Gln	Val	Asp	Lys	Gln	Ile	Glu	Gln	Phe	Leu	Phe	Lys	Glu	Ile	Lys	Lys
			20					25					30		
Pro	Gly	Asn	Phe	Val	Leu	Gly	Glu	Glu	Thr	Ile	Ser	Thr	Tyr	Lys	Glu
		35					40					45			
Glu	Tyr	Ile	Lys	Asp	Ala	Leu	Ile	Ser	Glu	Ser	Thr	Phe	Ile	Ile	Asp
	50					55					60				
Pro	Ile	Asp	Gly	Thr	Ser	Ser	Phe	Ala	Ala	Gly	Leu	Pro	Ser	Tyr	Gly
	65					70					75				80
Ile	Ser	Leu	Ala	Tyr	Ala	Ser	Gly	Gly	Lys	Ile	Ile	Glu	Gly	Ala	Ile
				85					90					95	

Ser Leu Pro Leu Ser Gly Glu Phe Phe Ile Thr Ser Lys Asp Asn Val  
 100 105 110  
 Phe Tyr Ala Lys Lys Asn Ile Gly Ser Tyr Pro Leu Lys Lys Asp Phe  
 115 120 125  
 Asn Lys Phe Ile Phe Asp Asn Ser Lys Cys Tyr Asn Ile His Ser Leu  
 130 135 140  
 Leu Ala Val Ser Arg Ser Ile Ile Arg Leu Phe Asn Leu Asp Ile Ser  
 145 150 155 160  
 Ser His Ile His Ile Asn Gly Ser Cys Val Tyr Ser Phe Ala Lys Leu  
 165 170 175  
 Phe Thr Gly Ser Tyr Lys Ala Tyr Phe Ser Phe Val Gly Leu Trp Asp  
 180 185 190  
 Ile Ala Ala Cys Leu Ala Ile Gly Asn Lys Leu Gly Met Val Gly Glu  
 195 200 205  
 Phe Tyr Cys Gly Asn Lys Met Thr Leu Asp Ile Leu Asp Ser Met Tyr  
 210 215 220  
 Ile Leu Glu Pro Asn Asn His Lys Arg Trp Ser Leu Lys Asp Phe Phe  
 225 230 235 240  
 Ile Tyr Ser Asp Asn Lys Ser Thr Ile Asp Ile Ile Arg Lys Asp Ala  
 245 250 255  
 Asn Lys Lys Ile Asn Lys Glx  
 260

&lt;210&gt; 486

&lt;211&gt; 855

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 486

atggattggg attttga aaa aattatattt ttattaaatg aatcaactag gcttgcatta 60  
 agtgggtgtg ctaaattaat tttagatttt aaatctgatg ggtctattgt aactcagggt 120  
 gataagcaaa ttgagcaatt cttattcaaa gagatcaaaa agcctggaaa ttttgttctt 180  
 ggagaagaga caatatctac ttataaagaa gagtatatca aagatgcttt aatatcagag 240  
 agtactttta ttattgatcc tattgatgga acttcttctt ttgcagcagg ccttccttca 300  
 tatggaatat cgctagcgta tgctagtggc ggcaaaatta ttgaaggagc catttctctt 360  
 cctttaagcg gagagttttt tattacttct aaagataatg tattttatgc taaaaaaaac 420  
 attggtagct atcctttaaa aaaggatttt aataaattta tttttgataa ttctaaatgt 480  
 tacaatatcc atagtttact tgcagtttca aggtctatta taaggttatt taatcttgat 540  
 atttcttctc atattcatat taatggttct tgtgtatatt cttttgctaa actttttaca 600  
 ggttcttata aggcctactt ttcttttgta ggactttggg atattgcagc gtgttttagct 660  
 attggaataa aattgggcat gggtggcgaa ttttattgtg gtaataaaat gacattagat 720  
 atcttagatt caatgtatat tttagagcct aataatcata aaagatgggc cttgaaagat 780  
 ttttttattt attctgataa taaatcaaca atagacatta taagaaaaga tgcaataaaa 840  
 aaaatcaata agtaa 855

&lt;210&gt; 487

&lt;211&gt; 795

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 487

```

agtggttgtg ctaaattaat tttagatttt aaatctgatg ggtctattgt aactcagggtt 60
gataagcaaa ttgagcaatt cttattcaaa gagatcaaaa agcctggaaa ttttgttctt 120
ggagaagaga caatatctac ttataaagaa gagtatatca aagatgcttt aatatcagag 180
agtactttta ttattgatcc tattgatgga acttcttctt ttgcagcagg ccttccttca 240
tatggaatat cgctagcgta tgctagtggc ggcaaaatta ttgaaggagc catttctctt 300
cctttaagcg gagagttttt tattacttct aaagataatg tattttatgc taaaaaaaaac 360
attggtagct atccttttaa aaaggatttt aataaattta tttttgataa ttctaaatgt 420
tacaatattc atagtttact tgcagtttca aggtctatta taaggttatt taatcttgat 480
atttcttctc atattcatat taatggttct tgtgtatatt cttttgctaa actttttaca 540
ggttcttata aggcctactt ttcttttgta ggactttggg atattgcagc gtgttttagct 600
attggttaata aattgggcat ggttggcgaa ttttattgtg gtaataaaat gacattagat 660
atcttagatt caatgtatat tttagagcct aataatcata aaagatggtc cttgaaagat 720
ttttttattt attctgataa taaatcaaca atagacatta taagaaaaga tgcaataaaa 780
aaaatcaata agtaa 795

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&lt;210&gt; 488

&lt;211&gt; 214

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 488

```

Met Ala Phe Tyr Lys Leu Asn Asp Asn Ile Ala Leu Ala Glu Asp Leu
  1             5             10             15

Leu Lys Tyr Leu Leu Ser Ser Ile Leu Asn Glu Cys Ser Gln Asp Met
          20             25             30

Asp Phe Leu Glu Asn Tyr Ile Glu Lys Gly Leu Ile Lys Lys Leu Glu
          35             40             45

Asn Val Ile Asn Ser Asn Phe Glu Val Ile Thr Tyr Thr Lys Ala Ile
          50             55             60

Glu Ile Leu Glu Asn Ser Lys Lys Asn Phe Glu Ile Lys Pro Tyr Trp
          65             70             75             80

Gly Ile Asp Leu Gln Thr Asp His Glu Arg Tyr Leu Thr Glu Glu Thr
          85             90             95

Phe Lys Lys Pro Val Val Val Ile Asp Tyr Pro Lys Asn Phe Lys Ala
          100            105            110

Phe Tyr Met Lys Ala Asn Lys Asp Asn Lys Thr Val Lys Gly Met Asp
          115            120            125

Ile Leu Val Pro Lys Ile Gly Glu Ile Ile Gly Gly Ser Glu Arg Glu
          130            135            140

Asp Asp Leu Gln Lys Leu Glu Asn Arg Ile Lys Glu Leu Asn Leu Asn
          145            150            155            160

Ile Glu His Leu Asn Trp Tyr Leu Asp Leu Arg Arg Phe Gly Ser Ala
          165            170            175

```



Pro His Ser Gly Phe Gly Leu Gly Leu Glu Arg Leu Val Gln Tyr Ser  
180 185 190

Thr Gly Ile Ser Asn Ile Arg Asp Ser Ile Pro Phe Pro Arg Thr Pro  
195 200 205

Lys Asn Leu Tyr Phe Glx  
210

<210> 489

<211> 187

<212> PRT

<213> Homo sapiens

<400> 489

Cys Ser Gln Asp Met Asp Phe Leu Glu Asn Tyr Ile Glu Lys Gly Leu  
1 5 10 15

Ile Lys Lys Leu Glu Asn Val Ile Asn Ser Asn Phe Glu Val Ile Thr  
20 25 30

Tyr Thr Lys Ala Ile Glu Ile Leu Glu Asn Ser Lys Lys Asn Phe Glu  
35 40 45

Ile Lys Pro Tyr Trp Gly Ile Asp Leu Gln Thr Asp His Glu Arg Tyr  
50 55 60

Leu Thr Glu Glu Thr Phe Lys Lys Pro Val Val Val Ile Asp Tyr Pro  
65 70 75 80

Lys Asn Phe Lys Ala Phe Tyr Met Lys Ala Asn Lys Asp Asn Lys Thr  
85 90 95

Val Lys Gly Met Asp Ile Leu Val Pro Lys Ile Gly Glu Ile Ile Gly  
100 105 110

Gly Ser Glu Arg Glu Asp Asp Leu Gln Lys Leu Glu Asn Arg Ile Lys  
115 120 125

Glu Leu Asn Leu Asn Ile Glu His Leu Asn Trp Tyr Leu Asp Leu Arg  
130 135 140

Arg Phe Gly Ser Ala Pro His Ser Gly Phe Gly Leu Gly Leu Glu Arg  
145 150 155 160

Leu Val Gln Tyr Ser Thr Gly Ile Ser Asn Ile Arg Asp Ser Ile Pro  
165 170 175

Phe Pro Arg Thr Pro Lys Asn Leu Tyr Phe Glx  
180 185

<210> 490

<211> 642

<212> DNA

<213> Homo sapiens

<400> 490

atggcttttt ataagcttaa cgacaatatt gccctagcag aagatctctt gaaatatctt 60

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aaaggtttta ttaaaaaact agaaaatgta ataaattcaa attttgaggt tattacctat 180
actaaagcaa ttgaaattct tgaaaaactca aaaaaaaatt ttgaaataaa accttactgg 240
ggaatagatt tgcaaacaga tcacgaaaga tacctaacag aagagacttt taaaaaacgg 300
gtagtgggtca ttgattatcc aaaaaatttc aaagcatttt acatgaaagc aaataaagac 360
aataaaactg ttaaaggaaat ggacatactt gttccaaaaa ttggagagat tataggggga 420
agcgaaagag aagatgacct tcaaaaatta gaaaatagaa taaaagaatt aaacttaaac 480
attgaacatc taaactggta tcttgatcta agaagatttg gtcgggtccc tcattctggc 540
tttggacttg gacttgaaag attggtgcaa tactcaacag gaatatctaa tataagagat 600
tcaataccat tcccaaggac tcttaaaaat ctttattttt aa 642

```

&lt;210&gt; 491

&lt;211&gt; 561

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 491

```

tgctcacaag atatggattt tttagaaaat tacattgaaa aagggtttaat taaaaaacta 60
gaaaatgtaa taaattcaaa ttttgaggtt attacctata ctaaagcaat tgaaattctt 120
gaaaactcaa aaaaaattt tgaaataaaa ccttactggg gaatagattt gcaaacagat 180
cacgaaagat acctaacaga agagactttt aaaaaaccgg tagtgggtcat tgattatcca 240
aaaaatttca aagcatttta catgaaagca aataaagaca ataaaactgt taaaggaatg 300
gacatacttg ttccaaaaat tggagagatt atagggggaa gcgaaagaga agatgacctt 360
caaaaattag aaaatagaat aaaagaatta aacttaaaca ttgaacatct aaactgggtat 420
cttgatctaa gaagatttgg ctgggtctct cattctggct ttggacttgg acttgaaaga 480
ttggtgcaat actcaacagg aatatctaata ataagagatt caataccatt cccaaggact 540
cctaaaaatc tttattttta a 561

```

&lt;210&gt; 492

&lt;211&gt; 176

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 492

```

Met Lys Ile Leu Arg Leu Cys Leu Leu Phe Leu Phe Phe Ala Cys Thr
  1             5             10             15

```

```

Phe Asp Tyr Asp Glu Tyr Ser Ser Arg Ser Asp Val Ala Lys Lys Phe
          20             25             30

```

```

Pro Ser Ile Gln Ile Leu Gly Ile Lys Tyr Tyr Asp Val Val Tyr Asn
  35             40             45

```

```

Lys Glu Gln Thr Val Leu Asn Ser Leu Ser Phe Ser Tyr Phe Asn Asp
  50             55             60

```

```

Tyr Lys Ile Tyr Lys Ala Glu Asn Gly Arg Phe Leu Tyr His Ser Leu
  65             70             75             80

```

```

Asp Asn Glu Ile Ser Gly Lys Phe Asn Asn Leu Glu Gly Ser Tyr Ile
          85             90             95

```

```

Thr Lys Asp Leu Asp Met Arg Asp Ser Val Glu Phe Lys Ile Glu Asp
 100             105             110

```

```

Lys Asn Asn Tyr Tyr Leu Leu Asn Ser Asn Arg Leu Leu Trp Lys Asn
 115             120             125

```

Lys Asp Lys Lys Leu Gln Ser Pro Pro Asn Glu Leu Val Leu Ile Arg  
 130 135 140

Phe Asn Asp Ser Lys Ile Asn Gly Lys Gly Phe Ser Tyr Phe Leu Lys  
 145 150 155 160

Ser Asn Val Phe Tyr Phe Asp Ser Gly Val Glu Gly Ile Met Asn Glx  
 165 170 175

<210> 493

<211> 162

<212> PRT

<213> Homo sapiens

<400> 493

Cys Thr Phe Asp Tyr Asp Glu Tyr Ser Ser Arg Ser Asp Val Ala Lys  
 1 5 10 15

Lys Phe Pro Ser Ile Gln Ile Leu Gly Ile Lys Tyr Tyr Asp Val Val  
 20 25 30

Tyr Asn Lys Glu Gln Thr Val Leu Asn Ser Leu Ser Phe Ser Tyr Phe  
 35 40 45

Asn Asp Tyr Lys Ile Tyr Lys Ala Glu Asn Gly Arg Phe Leu Tyr His  
 50 55 60

Ser Leu Asp Asn Glu Ile Ser Gly Lys Phe Asn Asn Leu Glu Gly Ser  
 65 70 75 80

Tyr Ile Thr Lys Asp Leu Asp Met Arg Asp Ser Val Glu Phe Lys Ile  
 85 90 95

Glu Asp Lys Asn Asn Tyr Tyr Leu Leu Asn Ser Asn Arg Leu Leu Trp  
 100 105 110

Lys Asn Lys Asp Lys Lys Leu Gln Ser Pro Pro Asn Glu Leu Val Leu  
 115 120 125

Ile Arg Phe Asn Asp Ser Lys Ile Asn Gly Lys Gly Phe Ser Tyr Phe  
 130 135 140

Leu Lys Ser Asn Val Phe Tyr Phe Asp Ser Gly Val Glu Gly Ile Met  
 145 150 155 160

Asn Glx

<210> 494

<211> 528

<212> DNA

<213> Homo sapiens

<400> 494

atgaaaatac ttagactttg tttgttgttt ttgttttttg cttgtacttt tgattatgat 60

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gagtattcta gtagatctga tgtggccaaa aagtttcctt caatacaaat attaggaatc 120
aagtattatg atgttgata caataaagag caaacggtt taaattcttt aagcttttagt 180
tatttcaatg actataaaat ttataaggca gagaatggaa ggtttttata tcattcccta 240
gataatgaaa tttcagggaa gtttaataat ttggaagggtt cttatattac aaaggatttg 300
gatatgagag attctgtaga attttaaata gaagataaaa ataattatta tttgcttaat 360
tcaaataaggc ttttatggaa gaataaagac aagaagttgc aatccccccc aaatgagcta 420
gtattaatta gatttaatga tagcaaaata aacggaaaag gattttctta ttttttaaag 480
agcaatgttt tttattttga ttctggaggt gaaggaatca tgaattga 528

```

&lt;210&gt; 495

&lt;211&gt; 486

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 495

```

tgtacttttg attatgatga gtattctagt agatctgat tggccaaaaa gtttccttca 60
atacaaatat taggaatcaa gtattatgat gttgtataca ataaagagca aaccgtttta 120
aattctttta gctttagtta tttcaatgac tataaaattt ataaggcaga gaatggaagg 180
tttttatatc attccctaga taatgaaatt tcaggggaagt ttaataattt ggaaggttct 240
tatattacaa aggattttgga tatgagagat tctgtagaat ttaaaataga agataaaaaat 300
aattattatt tgcttaattc aaatagggtt ttatggaaga ataaagacaa gaagttgcaa 360
tcccccccaa atgagctagt attaattaga tttaatgata gcaaaataaa cggaaaagga 420
ttttcttatt ttttaaagag caatgttttt tattttgatt ctggagttga aggaatcatg 480
aattga 486

```

&lt;210&gt; 496

&lt;211&gt; 202

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 496

```

Met Lys Gln Lys Leu Ser Trp Ile Leu Leu Phe Cys Phe Leu Ser Cys
  1              5              10              15
Arg Ser Glu Ser Arg Leu Ala Glu Asn Val Leu Ile Glu Phe Phe Asp
      20              25              30
Ser Ile Lys Asn Phe Gln Ser Ser Pro Glu Ile Phe Phe Asn Tyr Leu
      35              40              45
Asn Ile Pro Ser Asp Asp Asp Leu Lys Ala Lys Ile Arg Gly Leu Lys
      50              55              60
Ser Gln Ala Lys Asp Asp Phe Ile Phe Tyr Pro Leu Phe Phe Asn Asn
      65              70              75              80
Leu Arg Tyr Glu Ile Ile Gly Arg Lys Asn Ile Ser Lys Gly Phe Glu
      85              90              95
Phe Glu Val Val Ile Lys Asn Ile Asn Phe Gln Asn Gly Ile Glu Lys
      100              105              110
Phe Leu Ala Lys Leu Asn Lys Ile Glu Gly Arg Ser Leu Asn Ile Lys
      115              120              125
Asn Leu Glu Lys Lys Glu Arg Lys Lys Ile Phe Asp Asn Leu Ile Asn
      130              135              140

```

Glu Val Ile Gly Glu Leu Asp Asp Phe Asp Tyr Thr Glu Val Val His  
 145 150 155 160

Phe Phe Arg Val Val Lys Ser Ser Ser Glu Ser Tyr Lys Ile Glu Leu  
 165 170 175

Leu Gly Asp Val Leu Asn Ile Gln Ser Arg Asn Lys Leu Ile Asn Asp  
 180 185 190

Leu Phe Leu Val Leu Ser Pro Gly Ile Glx  
 195 200

<210> 497

<211> 191

<212> PRT

<213> Homo sapiens

<400> 497

Cys Phe Leu Ser Cys Arg Ser Glu Ser Arg Leu Ala Glu Asn Val Leu  
 1 5 10 15

Ile Glu Phe Phe Asp Ser Ile Lys Asn Phe Gln Ser Ser Pro Glu Ile  
 20 25 30

Phe Phe Asn Tyr Leu Asn Ile Pro Ser Asp Asp Asp Leu Lys Ala Lys  
 35 40 45

Ile Arg Gly Leu Lys Ser Gln Ala Lys Asp Asp Phe Ile Phe Tyr Pro  
 50 55 60

Leu Phe Phe Asn Asn Leu Arg Tyr Glu Ile Ile Gly Arg Lys Asn Ile  
 65 70 75 80

Ser Lys Gly Phe Glu Phe Glu Val Val Ile Lys Asn Ile Asn Phe Gln  
 85 90 95

Asn Gly Ile Glu Lys Phe Leu Ala Lys Leu Asn Lys Ile Glu Gly Arg  
 100 105 110

Ser Leu Asn Ile Lys Asn Leu Glu Lys Lys Glu Arg Lys Lys Ile Phe  
 115 120 125

Asp Asn Leu Ile Asn Glu Val Ile Gly Glu Leu Asp Asp Phe Asp Tyr  
 130 135 140

Thr Glu Val Val His Phe Phe Arg Val Val Lys Ser Ser Ser Glu Ser  
 145 150 155 160

Tyr Lys Ile Glu Leu Leu Gly Asp Val Leu Asn Ile Gln Ser Arg Asn  
 165 170 175

Lys Leu Ile Asn Asp Leu Phe Leu Val Leu Ser Pro Gly Ile Glx  
 180 185 190

<210> 498

<211> 606

<212> DNA

<213> Homo sapiens

&lt;400&gt; 498

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cctgaaatat tttttaatta tttaaatatt ccaagtgatg atgatctgaa ggcaaaaatt 180
cgtgggttga aatctcaggc aaaggatgat ttcatttttt atcctttggt ttttaataat 240
ctaagatatg agataatagg tagaaaaaat atttctaagg gctttgaatt tgaagttggt 300
attaaaaata ttaactttca aaacggtata gaaaaatttt tggctaaatt aaataaaaatt 360
gaagggagat ctttaaatat taaaaattta gaaaaaaaag agcgtaaaaa aatatttgac 420
aatttaataa atgaagttat tggagagttg gatgattttg attacactga agttgttcat 480
tttttttagag tagttaagag ttcttctgaa agttataaaa tagagctttt aggagatggt 540
ttaaatatac agtctagaaa taagcttatt aatgatcttt ttttggtttt atcgcttgga 600
atttaa                                           606

```

&lt;210&gt; 499

&lt;211&gt; 573

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 499

```

tgttttttgt cttgtagatc tgaatctaga ttggctgaaa atgttttaat agagtttttt 60
gattctatta aaaattttca aagcagtcct gaaatatttt ttaattattt aaatattcca 120
agtgatgatg atctgaaggc aaaaattcgt gggttgaaat ctcaggcaaa ggatgatttc 180
attttttatc ctttggtttt taataatcta agatatgaga taataggtag aaaaaatatt 240
tctaagggct ttgaatttga agttgttatt aaaaatatta actttcaaaa cggtatagaa 300
aaatttttgg ctaaattaaa taaaattgaa gggagatctt taaatattaa aaatttagaa 360
aaaaaagagc gtaaaaaaat atttgacaat ttaataaatg aagttatttg agagttggat 420
gattttgatt acactgaagt tgttcatttt tttagagtag ttaagagttc ttctgaaagt 480
tataaaatag agcttttagg agatgtttta aatatacagt ctagaaataa gcttattaat 540
gatctttttt tggttttatc gcctggaatt taa                                           573

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&lt;210&gt; 500

&lt;211&gt; 168

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 500

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Met Arg Ile Val Ile Phe Ile Phe Gly Ile Leu Leu Thr Ser Cys Phe
  1           5           10           15

Ser Arg Asn Gly Ile Glu Ser Ser Ser Lys Lys Ile Lys Ile Ser Met
          20           25           30

Leu Val Asp Gly Val Leu Asp Asp Lys Ser Phe Asn Ser Ser Ala Asn
          35           40           45

Glu Ala Leu Leu Arg Leu Lys Lys Asp Phe Pro Glu Asn Ile Glu Glu
          50           55           60

Val Phe Ser Cys Ala Ile Ser Gly Val Tyr Ser Ser Tyr Val Ser Asp
          65           70           75           80

Leu Asp Asn Leu Lys Arg Asn Gly Ser Asp Leu Ile Trp Leu Val Gly
          85           90           95

Tyr Met Leu Thr Asp Ala Ser Leu Leu Val Ser Ser Glu Asn Pro Lys
          100          105          110

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Ile Ser Tyr Gly Ile Ile Asp Pro Ile Tyr Gly Asp Asp Val Gln Ile  
 115 120 125

Pro Glu Asn Leu Ile Ala Val Val Phe Arg Val Glu Pro Arg Cys Phe  
 130 135 140

Phe Gly Trp Leu Tyr Cys Ser Gln Lys Lys Leu Phe Trp Gln Asn Arg  
 145 150 155 160

Phe Tyr Arg Gly Asn Glu Gly Glx  
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<210> 501

<211> 154

<212> PRT

<213> Homo sapiens

<400> 501

Cys Phe Ser Arg Asn Gly Ile Glu Ser Ser Ser Lys Lys Ile Lys Ile  
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Ser Met Leu Val Asp Gly Val Leu Asp Asp Lys Ser Phe Asn Ser Ser  
 20 25 30

Ala Asn Glu Ala Leu Leu Arg Leu Lys Lys Asp Phe Pro Glu Asn Ile  
 35 40 45

Glu Glu Val Phe Ser Cys Ala Ile Ser Gly Val Tyr Ser Ser Tyr Val  
 50 55 60

Ser Asp Leu Asp Asn Leu Lys Arg Asn Gly Ser Asp Leu Ile Trp Leu  
 65 70 75 80

Val Gly Tyr Met Leu Thr Asp Ala Ser Leu Leu Val Ser Ser Glu Asn  
 85 90 95

Pro Lys Ile Ser Tyr Gly Ile Ile Asp Pro Ile Tyr Gly Asp Asp Val  
 100 105 110

Gln Ile Pro Glu Asn Leu Ile Ala Val Val Phe Arg Val Glu Pro Arg  
 115 120 125

Cys Phe Phe Gly Trp Leu Tyr Cys Ser Gln Lys Lys Leu Phe Trp Gln  
 130 135 140

Asn Arg Phe Tyr Arg Gly Asn Glu Gly Glx  
 145 150

<210> 502

<211> 504

<212> DNA

<213> Homo sapiens

<400> 502

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 aaatctttta attctagtgc taatgaggct ttattacgct tgaaaaaaga ttttcagaa 180  
 aatattgaag aagttttttc ttgtgctatt tctggagttt attctagtta tgtttcagat 240

cttgataatt taaaaaggaa tggctcagac ttgatttggc ttgtagggta catgcttacg 300  
gacgcatctt tattgggtttc atcggagaat ccaaaaatta gctatggaat aatagatccc 360  
atztatgggtg atgatgttca gattcctgaa aacttgattg ctggtgtttt cagagtagag 420  
ccaaggtgct tttttggctg gctatattgc agccaaaaaa agcttttctg gcaaaatagg 480  
ttttataggg ggaatgaagg gtaa 504

<210> 503

<211> 462

<212> DNA

<213> Homo sapiens

<400> 503

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aaaaaagatt ttccagaaaa tattgaagaa gttttttctt gtgctatttc tggagtttat 180  
tctagttaat tttcagatct tgataattta aaaaggaatg gctcagactt gatttggctt 240  
gtagggtaca tgcttacgga cgcattcttta ttggtttcat cggagaatcc aaaaattagc 300  
tatggaataa tagatcccat ttatggtgat gatgttcaga ttcctgaaaa cttgattgct 360  
gttggttttca gagtagagcc aagggtgcttt tttggctggc tatattgcag ccaaaaaaag 420  
cttttctggc aaaataggtt ttataggggg aatgaagggg aa 462

<210> 504

<211> 265

<212> PRT

<213> Homo sapiens

<400> 504

Met	Lys	Arg	Ile	Leu	Ala	Met	His	Asp	Ile	Ser	Ser	Met	Gly	Arg	Thr
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Ser	Leu	Thr	Ile	Cys	Ile	Pro	Val	Ile	Ser	Ser	Phe	Asn	Met	Gln	Val
		20						25					30		
Cys	Pro	Phe	Val	Thr	Ala	Val	Leu	Ser	Ala	Ser	Thr	Ala	Tyr	Lys	Lys
		35					40					45			
Phe	Glu	Ile	Val	Asp	Leu	Thr	Asp	His	Leu	Glu	Lys	Phe	Ile	Asn	Ile
	50					55					60				
Trp	Lys	Glu	Gln	Asn	Glu	His	Phe	Asp	Ile	Leu	Tyr	Thr	Gly	Phe	Leu
	65				70					75					80
Gly	Ser	Glu	Lys	Gln	Ile	Thr	Ile	Glu	Lys	Ile	Ile	Lys	Leu	Ile	
			85					90					95		
Lys	Phe	Glu	Lys	Ile	Val	Ile	Asp	Pro	Val	Phe	Ala	Asp	Asp	Gly	Glu
		100						105					110		
Ile	Tyr	Pro	Ile	Phe	Asp	Asn	Lys	Ile	Ile	Ser	Gly	Phe	Arg	Lys	Ile
		115					120					125			
Ile	Lys	Tyr	Ala	Asn	Ile	Ile	Thr	Pro	Asn	Ile	Thr	Glu	Leu	Glu	Met
	130					135					140				
Leu	Ser	Lys	Ser	Ser	Lys	Leu	Asn	Asn	Lys	Asp	Asp	Ile	Ile	Lys	Ala
145					150					155				160	
Ile	Leu	Asn	Leu	Asp	Thr	Lys	Ala	Thr	Val	Val	Val	Thr	Ser	Val	Lys



165 170 175  
 Arg Gly Asn Leu Leu Gly Asn Ile Cys Tyr Asn Pro Lys Asn Lys Glu  
 180 185 190  
 Tyr Ser Glu Phe Phe Leu Glu Gly Leu Glu Gln Asn Phe Ser Gly Thr  
 195 200 205  
 Gly Asp Leu Phe Thr Ser Leu Leu Ile Gly Tyr Leu Glu Lys Phe Glu  
 210 215 220  
 Thr Glu Gln Ala Leu Glu Lys Thr Thr Lys Ala Ile His Leu Ile Ile  
 225 230 235 240  
 Lys Glu Ser Ile Lys Glu Asn Val Ser Lys Lys Glu Gly Val Arg Ile  
 245 250 255  
 Glu Asn Phe Leu Lys Asn Thr Phe Glx  
 260 265  
 <210> 505  
 <211> 245  
 <212> PRT  
 <213> Homo sapiens  
 <400> 505  
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 Thr Ala Val Leu Ser Ala Ser Thr Ala Tyr Lys Lys Phe Glu Ile Val  
 20 25 30  
 Asp Leu Thr Asp His Leu Glu Lys Phe Ile Asn Ile Trp Lys Glu Gln  
 35 40 45  
 Asn Glu His Phe Asp Ile Leu Tyr Thr Gly Phe Leu Gly Ser Glu Lys  
 50 55 60  
 Gln Gln Ile Thr Ile Glu Lys Ile Ile Lys Leu Ile Lys Phe Glu Lys  
 65 70 75 80  
 Ile Val Ile Asp Pro Val Phe Ala Asp Asp Gly Glu Ile Tyr Pro Ile  
 85 90 95  
 Phe Asp Asn Lys Ile Ile Ser Gly Phe Arg Lys Ile Ile Lys Tyr Ala  
 100 105 110  
 Asn Ile Ile Thr Pro Asn Ile Thr Glu Leu Glu Met Leu Ser Lys Ser  
 115 120 125  
 Ser Lys Leu Asn Asn Lys Asp Asp Ile Ile Lys Ala Ile Leu Asn Leu  
 130 135 140  
 Asp Thr Lys Ala Thr Val Val Val Thr Ser Val Lys Arg Gly Asn Leu  
 145 150 155 160  
 Leu Gly Asn Ile Cys Tyr Asn Pro Lys Asn Lys Glu Tyr Ser Glu Phe  
 165 170 175

Phe Leu Glu Gly Leu Glu Gln Asn Phe Ser Gly Thr Gly Asp Leu Phe  
 180 185 190  
 Thr Ser Leu Leu Ile Gly Tyr Leu Glu Lys Phe Glu Thr Glu Gln Ala  
 195 200 205  
 Leu Glu Lys Thr Thr Lys Ala Ile His Leu Ile Ile Lys Glu Ser Ile  
 210 215 220  
 Lys Glu Asn Val Ser Lys Lys Glu Gly Val Arg Ile Glu Asn Phe Leu  
 225 230 235 240  
 Lys Asn Thr Phe Glx  
 245

<210> 506  
 <211> 795  
 <212> DNA  
 <213> Homo sapiens

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 tctgcttcca cagcttataa aaaatttgaa atagtggatt taaccgatca tttagaaaaa 180  
 tttatcaata tatggaaaga acaaaatgag cactttgaca tactctatac cggatttctg 240  
 ggaagcgaaa aacaacaaat aacaatagag aaaataatta aattaataaa atttgaaaaa 300  
 attgtaattg atcctgtggt tgctgacgat ggagaaattt accctatatt tgataataaa 360  
 ataattagtg gatthagaaa aatcataaaag tacgcaaaca taataacacc caatatcaca 420  
 gaacttgaaa tgctaagcaa aagctcaaaa cttaacaaca aagatgatat cataaaagca 480  
 atattaaatc ttgatacaaa agcgacggta gttgttacaa gcgttaaaaag gggaaatctc 540  
 ttgggaaaca tttgctacaa tcctaaaaac aaagaatact cggagttttt tttagaagga 600  
 ttagaacaaca atttcagtggt aacaggagat ttatttacca gcttacttat aggatatttg 660  
 gaaaaatttg aaacagagca agccttagaa aaaacaacaa aggctattca cctaataata 720  
 aaagagtcaa ttaaagaaaa tgtttcacaaa aaagaagggg tccgaattga aaatttctta 780  
 aaaaatacat tttga 795

<210> 507  
 <211> 735  
 <212> DNA  
 <213> Homo sapiens

<400> 507  
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 tctgcttcca cagcttataa aaaatttgaa atagtggatt taaccgatca tttagaaaaa 120  
 tttatcaata tatggaaaga acaaaatgag cactttgaca tactctatac cggatttctg 180  
 ggaagcgaaa aacaacaaat aacaatagag aaaataatta aattaataaa atttgaaaaa 240  
 attgtaattg atcctgtggt tgctgacgat ggagaaattt accctatatt tgataataaa 300  
 ataattagtg gatthagaaa aatcataaaag tacgcaaaca taataacacc caatatcaca 360  
 gaacttgaaa tgctaagcaa aagctcaaaa cttaacaaca aagatgatat cataaaagca 420  
 atattaaatc ttgatacaaa agcgacggta gttgttacaa gcgttaaaaag gggaaatctc 480  
 ttgggaaaca tttgctacaa tcctaaaaac aaagaatact cggagttttt tttagaagga 540  
 ttagaacaaca atttcagtggt aacaggagat ttatttacca gcttacttat aggatatttg 600  
 gaaaaatttg aaacagagca agccttagaa aaaacaacaa aggctattca cctaataata 660  
 aaagagtcaa ttaaagaaaa tgtttcacaaa aaagaagggg tccgaattga aaatttctta 720  
 aaaaatacat tttga 735

<210> 508

&lt;211&gt; 256

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 508

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Met Gly Leu Tyr Leu Lys Leu Leu Arg Gln Ser Ile Asn Leu Lys Ser
  1           5           10           15

Leu Phe Pro Leu Ser Val Leu Phe Phe Ser Cys Asn Val Val Asp Thr
      20           25           30

Asp Phe Ser Val Leu Glu Phe Lys Val Ala Asn Phe Asn Leu Asn Asp
      35           40           45

Asp Phe Ser Gln Gly Leu Leu Asp Ser Ala Tyr Asn Ile Leu Asn Arg
      50           55           60

Ser Phe Asp Leu Ile Ile Ile Lys Asn Leu Lys Asn Lys Asn Val Leu
      65           70           75           80

Asp Leu Ile Asn Asn Arg Val Leu Phe Arg Ala Phe Lys Asn Ala Tyr
      85           90           95

Phe Ile Asp Gln Gly Ser Gly Leu Ser Val Ser Ile Leu Ser Lys Arg
      100           105           110

Lys Ile Asn Ile Lys Val Leu Ser Val Met Gln Asp Ser Cys Asp Leu
      115           120           125

Lys Leu Gly Leu Leu Val Asp Phe Lys Phe Glu Asn Asn His Tyr Gly
      130           135           140

Ile Val Ile Tyr Asn Leu Ser Lys Asp Phe Ile Lys Ser Ile Ala Asn
      145           150           155           160

Leu Gln Ile Ser Glu Gln Ile Leu Tyr Leu Lys Ala Gln Met Asp Lys
      165           170           175

Leu Met Phe Ile Leu Asp Glu Ser Glu Phe Val Ile Phe Asp Leu Leu
      180           185           190

Ile Lys Asn Gly Phe Phe Ser Leu Ile Asn Asp Ser Asn Tyr Thr Ser
      195           200           205

Met Leu Ala Asn Lys Ile Asp Phe Arg Val Phe Ser Asn Phe Phe Ala
      210           215           220

Arg Val Ser Leu Tyr Ser Phe Met Phe Val Ile Ala Asp Tyr Leu His
      225           230           235           240

Ser Asn Tyr Val Val Glu Asn Phe Pro Gln Lys Ile Val Ile Asn Glx
      245           250           255

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&lt;210&gt; 509

&lt;211&gt; 230

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 509

Cys Asn Val Val Asp Thr Asp Phe Ser Val Leu Glu Phe Lys Val Ala  
 1 5 10 15

Asn Phe Asn Leu Asn Asp Asp Phe Ser Gln Gly Leu Leu Asp Ser Ala  
 20 25 30

Tyr Asn Ile Leu Asn Arg Ser Phe Asp Leu Ile Ile Ile Lys Asn Leu  
 35 40 45

Lys Asn Lys Asn Val Leu Asp Leu Ile Asn Asn Arg Val Leu Phe Arg  
 50 55 60

Ala Phe Lys Asn Ala Tyr Phe Ile Asp Gln Gly Ser Gly Leu Ser Val  
 65 70 75 80

Ser Ile Leu Ser Lys Arg Lys Ile Asn Ile Lys Val Leu Ser Val Met  
 85 90 95

Gln Asp Ser Cys Asp Leu Lys Leu Gly Leu Leu Val Asp Phe Lys Phe  
 100 105 110

Glu Asn Asn His Tyr Gly Ile Val Ile Tyr Asn Leu Ser Lys Asp Phe  
 115 120 125

Ile Lys Ser Ile Ala Asn Leu Gln Ile Ser Glu Gln Ile Leu Tyr Leu  
 130 135 140

Lys Ala Gln Met Asp Lys Leu Met Phe Ile Leu Asp Glu Ser Glu Phe  
 145 150 155 160

Val Ile Phe Asp Leu Leu Ile Lys Asn Gly Phe Phe Ser Leu Ile Asn  
 165 170 175

Asp Ser Asn Tyr Thr Ser Met Leu Ala Asn Lys Ile Asp Phe Arg Val  
 180 185 190

Phe Ser Asn Phe Phe Ala Arg Val Ser Leu Tyr Ser Phe Met Phe Val  
 195 200 205

Ile Ala Asp Tyr Leu His Ser Asn Tyr Val Val Glu Asn Phe Pro Gln  
 210 215 220

Lys Ile Val Ile Asn Glx  
 225 230

&lt;210&gt; 510

&lt;211&gt; 768

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 510

atgggcttgt atttgaagtt gttgagacaa agtatcaact tgaagagttt atttccgctt 60  
 agtgttttat ttttttctg taatgttgta gatacagatt ttagtgtttt ggagtttaag 120  
 gttgcaaatt ttaatttaaa tgatgatttt tctcaagggt tacttgattc tgcttataat 180

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attctaaatc gaagttttga ttttaataatt attaagaatc ttaagaataa aaatgttctt 240
gatttaatta ataatagagt tttattttaga gcttttaaga atgcttattt tattgatcaa 300
ggtagtggcc tttctgttag cattctttct aagcgcaaaa taaatattaa agttttaagt 360
gtaatgcaag attcttgcca tttaaaatta ggattgcttg tggattttta atttgagaat 420
aatcactatg gtattgttat ttataattta agcaaggatt ttattaaaag tattgccaat 480
ttgcaaatta gtgaacaaat tttatattta aaagcccaaa tggataaatt gatgtttatt 540
ttagatgaat ctgaatttgt tatttttgat ttattaatca aaaatggatt ttttagctta 600
ataaatgatt caaactacac ttcaatgtta gcaataaaaa ttgatttttag agttttttct 660
aatttttttg ctagggtttc tttatattca tttatgtttg taattgcaga ttatttgcac 720
agcaattatg ttgttgagaa ttttcctcaa aaaatagtta tcaattga 768

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<210> 511  
 <211> 690  
 <212> DNA  
 <213> Homo sapiens

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<400> 511
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gatttaataa ttattaagaa tcttaagaat aaaaatgttc ttgatttaat taataataga 180
gttttattta gagcttttaa gaatgcttat tttattgatc aaggtagtgg cttttctggt 240
agcattcttt ctaagcgcaa aataaatatt aaagttttaa gtgtaatgca agattcttgc 300
gatttaaaat taggattgct tgtggatttt aaatttgaga ataatcacta tggatttgtt 360
atttataatt taagcaagga ttttattaaa agtattgcca atttgcaaat tagtgaacaa 420
attttatatt taaaagccca aatggataaa ttgatgttta ttttagatga atctgaattt 480
gttatttttg atttattaat caaaaatgga ttttttagct taataaatga ttcaaactac 540
acttcaatgt tagcaaatata aattgatttt agagtttttt ctaatttttt tgctagggtt 600
tctttatatt catttatgtt tgtaattgca gattatttgc atagcaatta tgttggtgag 660
aattttcttc aaaaaatagt tatcaattga 690

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<210> 512  
 <211> 261  
 <212> PRT  
 <213> Homo sapiens

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<400> 512
Met Lys Thr Phe Val Ile Ile Gly Leu Ser Asn Leu Gly Ile His Leu
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Leu Glu Asp Leu Ser Arg Leu Asp Cys Gln Ile Ile Ile Asp Thr
      20             25             30

Ser Lys Glu Leu Ile Glu Glu Tyr Asp Val Ile Ser Thr Glu Ser Phe
      35             40             45

Val Val Glu Gln Phe Thr Lys Asn Ala Leu Lys Arg Ile Ile Pro Val
      50             55             60

Asp Thr Asp Ala Val Val Ile Asp Phe Asp Asp Asp Leu Gly Lys Ser
      65             70             75             80

Ala Leu Val Thr His Tyr Cys Asn Leu Leu Gly Leu Lys Glu Ile Cys
      85             90             95

Val Lys Thr Glu Asn Arg Asp Asp Ala Glu Ile Leu Lys Thr Leu Gly
      100            105            110

Ala Thr Lys Ile Ile Phe Pro Ser Lys Asp Ala Ala Arg Arg Leu Thr

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115		120		125
Pro Leu Leu Val Ser Pro Asn Leu Ser Thr Tyr Asn Ile Ile Gly Tyr				
130		135		140
Asp Ile Ile Val Ala Glu Thr Val Ile Pro Lys Glu Tyr Val Gly Lys				
145		150		155
Thr Leu Phe Glu Ala Asp Leu Arg Arg Glu Cys Gly Ile Thr Val Ile				
		165		170
Ala Val Arg Asn Leu Ser Asn Ser Arg Tyr Glu Phe Val Asp Gly Asp				
		180		185
Tyr Phe Phe Leu Lys Asp Asp Lys Ile Val Ile Cys Gly Lys Pro Asp				
		195		200
Ser Ile Glu Asn Phe Thr Asn Asn Lys Asp Leu Ile Lys Asp Leu Ile				
		210		215
Ser Gly Ser Lys Glu Asp Glu Asn Leu Asn Lys Asp Ala Glu Lys Lys				
		225		230
Ser Arg Phe Leu Gly Ile Phe Asn Phe Met Lys Ile Phe Gln Lys Asp				
		245		250
Arg Lys Asp Asn Glx				
		260		
<210> 513				
<211> 237				
<212> PRT				
<213> Homo sapiens				
<400> 513				
Cys Gln Ile Ile Ile Ile Asp Thr Ser Lys Glu Leu Ile Glu Glu Tyr				
1		5		10
Asp Val Ile Ser Thr Glu Ser Phe Val Val Glu Gln Phe Thr Lys Asn				
		20		25
Ala Leu Lys Arg Ile Ile Pro Val Asp Thr Asp Ala Val Val Ile Asp				
		35		40
Phe Asp Asp Asp Leu Gly Lys Ser Ala Leu Val Thr His Tyr Cys Asn				
		50		55
Leu Leu Gly Leu Lys Glu Ile Cys Val Lys Thr Glu Asn Arg Asp Asp				
		65		70
Ala Glu Ile Leu Lys Thr Leu Gly Ala Thr Lys Ile Ile Phe Pro Ser				
		85		90
Lys Asp Ala Ala Arg Arg Leu Thr Pro Leu Leu Val Ser Pro Asn Leu				
		100		105
Ser Thr Tyr Asn Ile Ile Gly Tyr Asp Ile Ile Val Ala Glu Thr Val				
		115		120
				125

Ile Pro Lys Glu Tyr Val Gly Lys Thr Leu Phe Glu Ala Asp Leu Arg  
130 135 140

Arg Glu Cys Gly Ile Thr Val Ile Ala Val Arg Asn Leu Ser Asn Ser  
145 150 155 160

Arg Tyr Glu Phe Val Asp Gly Asp Tyr Phe Phe Leu Lys Asp Asp Lys  
165 170 175

Ile Val Ile Cys Gly Lys Pro Asp Ser Ile Glu Asn Phe Thr Asn Asn  
180 185 190

Lys Asp Leu Ile Lys Asp Leu Ile Ser Gly Ser Lys Glu Asp Glu Asn  
195 200 205

Leu Asn Lys Asp Ala Glu Lys Lys Ser Arg Phe Leu Gly Ile Phe Asn  
210 215 220

Phe Met Lys Ile Phe Gln Lys Asp Arg Lys Asp Asn Glx  
225 230 235

<210> 514

<211> 783

<212> DNA

<213> Homo sapiens

<400> 514

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gatgtgatat ctacagaaag ctttgttggt gagcaattca ctaaaaatgc tttgaaaaga 180
ataattccag tagatacaga cgctgttggt attgattttg atgatgatct tggcaaaagt 240
gctcttggtta ctactattg taatctttta gggttgaaag aaatatgcgt taagacagaa 300
aataagagatg atgctgaaat cttaaaaact cttggggcaa caaaaattat attccaagt 360
aaagatgctg caagaagatt aactccatta ttagtatctc caaatctttc aacttataat 420
attattgggt atgatattat tgttgctgaa actgttattc ccaaagaata tgttggtaaa 480
actctttttg aagccgatct tagaagagaa tgtgggatta cagttattgc tgttagaaat 540
ttaagtaatt ctaggatga atttgttgat ggcgattatt tttttttaaa agatgataaa 600
attgtaattt gtggtaaacc agatagcatt gaaaatttta caaataataa agatttaatt 660
aaagatttaa ttcaggctc taaagaggat gaaaatttaa ataaagatgc tgagaaaaaa 720
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tag 783
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<210> 515

<211> 711

<212> DNA

<213> Homo sapiens

<400> 515

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gatacagacg ctgttggtat tgattttgat gatgatcttg gcaaaagtgc tcttggtact 180
cactattgta atcttttagg tttgaaagaa atatgcgtta agacagaaaa tagagatgat 240
gctgaaatct taaaaactct tggggcaaca aaaattatat ttccaagtaa agatgctgca 300
agaagattaa ctccattatt agtatctcca aatctttcaa cttataatat tattgggtat 360
gatattattg ttgctgaaac tgttattccc aaagaatatg ttggtaaaac tctttttgaa 420
gccgatctta gaagagaatg tgggattaca gttattgctg ttagaaattt aagtaattct 480
aggatgaat ttgttgatgg cgattatttt tttttaaaag atgataaaat tgtaatttgt 540
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ggtaaacag atagcattga aaattttaca aataataaag atttaattaa agattttaatt 600  
 tcaggctcta aagaggatga aaattttaat aaagatgctg agaaaaaatc tagattttta 660  
 gggattttca attttatgaa aatttttcaa aaagatcgta aggataatta g 711

<210> 516  
 <211> 223  
 <212> PRT  
 <213> Homo sapiens

<400> 516  
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 Ile Ile Ile Ile Phe Ala Leu Ile Ser Cys Asn His Lys Asn Ile Gln  
 20 25 30  
 Tyr Asp Lys Arg Ile Lys Lys Phe Leu Asp Lys Asn Lys Ile Glu Tyr  
 35 40 45  
 Lys Ile Asp Ser Glu Asn Asp Phe Ile Ala Phe Lys Asp Ile Asn Asn  
 50 55 60  
 Asn Glu Lys Glu Glu Val Ile Ile Arg Ser Arg Leu Asn Ser Tyr Lys  
 65 70 75 80  
 Asn Ser Lys Ile Arg Glu Ile Phe Gly Ile Val Lys Val Phe Asp Ile  
 85 90 95  
 Asn Thr Pro Lys Ile Lys Glu Ile Ser Asp Ser Leu Met Ser Asp Ser  
 100 105 110  
 Tyr Asn Asn Arg Val Phe Gly Ser Trp Glu Ile Ile His Asn Ala Glu  
 115 120 125  
 Arg Gly Ile Asn Ser Leu Val Tyr Ile Val Lys Ala Glu Glu Phe Ala  
 130 135 140  
 Asn Asp Thr Phe Leu Leu Asp Ala Ile Asp Glu Ile Ala Ser Thr Ile  
 145 150 155 160  
 Ser Ile Phe Lys Lys Ile Ile Thr Thr Asn Asn Glu Asn Ile Asp Asn  
 165 170 175  
 Asn Glu Glu Asn Asn Asn Thr Asn Glu Ser Asn Glu Gln Pro Thr Leu  
 180 185 190  
 Lys Gln Glu Lys Thr Asn Ser Thr Lys Glu Ser Asn Asn Glu Leu Lys  
 195 200 205  
 Glu Asp Gln Ile Glu Glu Glu Leu Gln Glu Ile Lys Ala Gln Glx  
 210 215 220

<210> 517  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 517



Cys Asn His Lys Asn Ile Gln Tyr Asp Lys Arg Ile Lys Lys Phe Leu  
 1 5 10 15  
 Asp Lys Asn Lys Ile Glu Tyr Lys Ile Asp Ser Glu Asn Asp Phe Ile  
 20 25 30  
 Ala Phe Lys Asp Ile Asn Asn Asn Glu Lys Glu Glu Val Ile Ile Arg  
 35 40 45  
 Ser Arg Leu Asn Ser Tyr Lys Asn Ser Lys Ile Arg Glu Ile Phe Gly  
 50 55 60  
 Ile Val Lys Val Phe Asp Ile Asn Thr Pro Lys Ile Lys Glu Ile Ser  
 65 70 75 80  
 Asp Ser Leu Met Ser Asp Ser Tyr Asn Asn Arg Val Phe Gly Ser Trp  
 85 90 95  
 Glu Ile Ile His Asn Ala Glu Arg Gly Ile Asn Ser Leu Val Tyr Ile  
 100 105 110  
 Val Lys Ala Glu Glu Phe Ala Asn Asp Thr Phe Leu Leu Asp Ala Ile  
 115 120 125  
 Asp Glu Ile Ala Ser Thr Ile Ser Ile Phe Lys Lys Ile Ile Thr Thr  
 130 135 140  
 Asn Asn Glu Asn Ile Asp Asn Asn Glu Glu Asn Asn Asn Thr Asn Glu  
 145 150 155 160  
 Ser Asn Glu Gln Pro Thr Leu Lys Gln Glu Lys Thr Asn Ser Thr Lys  
 165 170 175  
 Glu Ser Asn Asn Glu Leu Lys Glu Asp Gln Ile Glu Glu Glu Leu Gln  
 180 185 190  
 Glu Ile Lys Ala Gln Glx  
 195

&lt;210&gt; 518

&lt;211&gt; 669

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 518

atgctaattg caagaataat gaatattaat acattattct acggcatgat cattatcatt 60  
 tttgcactca tttcttgcaa tcataagaat atacagtacg acaagagaat taaaaaattt 120  
 ttagataaaa acaaaattga atataaaaata gactcagaaa atgactttat agcattttaa 180  
 gatataaaca ataacgaaaa agaagaagta atcatcagat caagactaaa ctcatataaa 240  
 aattcaaaga taagagaaat atttggaatt gttaaagtat ttgatataaa cacaccaaaa 300  
 ataaaagaaa tatctgactc gcttatgagc gatagttata ataacagagt atttggatcg 360  
 tgggagatta ttcataatgc agaaagagga atcaactctt tggatatat tgtaaaaagca 420  
 gaagaatttg caaatgatac atttttgctt gatgcaattg atgagattgc ctcaacaata 480  
 agtatttttca aaaaaataat aacaaccaac aacgaaaaca ttgataataa tgaagaaaat 540  
 aacaatacaa atgaatcaaa tgaacagccc accttaaagc aagaaaaaac aaattcaaca 600  
 aaagaatcta ataacgaact taaagaagat caaatagaag aagaacttca agaaatcaaa 660  
 gcccaataa 669

<210> 519  
 <211> 594  
 <212> DNA  
 <213> Homo sapiens

<400> 519  
 tgcaatcata agaatatata gtacgacaag agaattaaaa aattttttaga taaaaacaaa 60  
 attgaatata aaatagactc agaaaatgac tttatagcat tttaaagatat aaacaataac 120  
 gaaaaagaag aagtaatcat cagatcaaga ctaaactcat ataaaaattc aaagataaga 180  
 gaaatatttg gaattgttaa agtatttgat ataaacacac caaaaataaa agaaatatct 240  
 gactcgctta tgagcgatag ttataataac agagtatttg gatcgtggga gattattcat 300  
 aatgcagaaa gaggaatcaa ctcttttgga tatattgtaa aagcagaaga atttgcaaat 360  
 gatacatatt tgcttgatgc aattgatgag attgcctcaa caataagtat tttcaaaaaa 420  
 ataataacaa ccaacaacga aaacattgat aataatgaag aaaataacaa tacaatgaa 480  
 tcaaatgaac agcccacctt aaagcaagaa aaaacaaatt caacaaaaga atctaataac 540  
 gaacttaaaag aagatcaaat agaagaagaa cttcaagaaa tcaaagccca ataa 594

<210> 520  
 <211> 176  
 <212> PRT  
 <213> Homo sapiens

<400> 520  
 Met Arg Val Asp Leu Leu Pro Leu Val Glu Leu Ser Leu Tyr Ile Asn  
 1 5 10 15  
 Leu Ser Phe Cys Cys Lys Asp Phe Ser Ile Phe Asn Arg Ile Leu Glu  
 20 25 30  
 Glu Leu Lys Cys His Leu Ile Leu Leu Gly His Pro Ile Ile Lys Thr  
 35 40 45  
 Leu Tyr Ile Lys His Val Asp Phe Cys Leu Ser Arg Gln Asp Asn Leu  
 50 55 60  
 Lys Phe Ile Phe Thr Ser Leu Ser Lys Tyr Ile Asn Leu Glu Leu Leu  
 65 70 75 80  
 Glu Glu Phe Thr Leu Glu Ile Ile Pro Gly Tyr Val Asp Phe Glu Lys  
 85 90 95  
 Phe Lys Leu Leu Asp Glu Phe Cys Ile Thr Arg Ile Asn Leu Asn Val  
 100 105 110  
 Gln Ser Phe Ser Leu Glu Phe Arg Lys Ile Val Gly Ile Pro Glu Ile  
 115 120 125  
 Ser Tyr Lys Lys Leu Asn Ile Leu Ile Asn Asn Ile Arg Lys Phe Pro  
 130 135 140  
 Phe Asp Leu Asn Ile Asp Met Thr Val Asn Met Pro Leu Gln Lys Lys  
 145 150 155 160  
 Ser His Leu Lys Arg Asp Leu Gln Arg Ile Ala Phe Ile Tyr Ala Glx  
 165 170 175

<210> 521  
 <211> 156  
 <212> PRT  
 <213> Homo sapiens

<400> 521  
 Cys Lys Asp Phe Ser Ile Phe Asn Arg Ile Leu Glu Glu Leu Lys Cys  
 1 5 10 15  
 His Leu Ile Leu Leu Gly His Pro Ile Ile Lys Thr Leu Tyr Ile Lys  
 20 25 30  
 His Val Asp Phe Cys Leu Ser Arg Gln Asp Asn Leu Lys Phe Ile Phe  
 35 40 45  
 Thr Ser Leu Ser Lys Tyr Ile Asn Leu Glu Leu Leu Glu Glu Phe Thr  
 50 55 60  
 Leu Glu Ile Ile Pro Gly Tyr Val Asp Phe Glu Lys Phe Lys Leu Leu  
 65 70 75 80  
 Asp Glu Phe Cys Ile Thr Arg Ile Asn Leu Asn Val Gln Ser Phe Ser  
 85 90 95  
 Leu Glu Phe Arg Lys Ile Val Gly Ile Pro Glu Ile Ser Tyr Lys Lys  
 100 105 110  
 Leu Asn Ile Leu Ile Asn Asn Ile Arg Lys Phe Pro Phe Asp Leu Asn  
 115 120 125  
 Ile Asp Met Thr Val Asn Met Pro Leu Gln Lys Lys Ser His Leu Lys  
 130 135 140  
 Arg Asp Leu Gln Arg Ile Ala Phe Ile Tyr Ala Glx  
 145 150 155

<210> 522  
 <211> 528  
 <212> DNA  
 <213> Homo sapiens

<400> 522  
 atgagagtag atcttttacc tcttgctgag ttaagtcttt atattaattt gtcattttgt 60  
 tgtaaagatt ttagcatttt taatagaatt ttagaggaat taaaatgtca tttaatcttg 120  
 ctgggtcatc caattataaa aacactttac attaagcacg tagatttttg tttatctagg 180  
 caagataatt taaaatttat tttcacttct ttgtccaagt atattaattt ggagttatta 240  
 gaagaattta ctttagaaat tattccgggt tatgttgatt ttgaaaaatt caaacttttg 300  
 gatgaatttt gtattactag aattaatctt aatgttcaaa gtttttcttt agagttttaga 360  
 aagattgtgg ggatacccgga aatttcttat aaaaaattga atattttgat taacaatatt 420  
 agaaagtttc cttttgattt gaatattgac atgactgtca atatgccttt gcaaaaaaaa 480  
 tctcatctca agcgagattt gcaaagaatt gctttcatat atgcctga 528

<210> 523  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

&lt;400&gt; 523

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tgtaaagatt ttagcatttt taatagaatt ttagaggaat taaaatgtca tttaatcttg 60
ctgggtcatc caattataaa aacactttac attaagcacg tagatttttg tttatctagg 120
caagataatt taaaatttat tttcacttct ttgtccaagt atattaattt ggagttatta 180
gaagaattta ctttagaaat tattccgggt tatgttgatt ttgaaaaatt caaacttttg 240
gatgaatttt gtattactag aattaatctt aatgttcaaa gtttttcttt agagtttaga 300
aagattgtgg ggatacccga aatttcttat aaaaaattga atattttgat taacaatatt 360
agaaagtttc cttttgattt gaatattgac atgactgtca atatgccttt gcaaaaaaaaa 420
tctcatctca agcgagattt gcaaagaatt gctttcatat atgcctga 468

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&lt;210&gt; 524

&lt;211&gt; 274

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 524

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Met Leu Lys Thr Leu Thr Lys Ile Ile Thr Ile Ser Cys Leu Ile Val
  1          5          10          15

Gly Cys Ala Ser Leu Pro Tyr Thr Pro Pro Lys Gln Asn Leu Asn Tyr
          20          25          30

Leu Met Glu Leu Leu Pro Gly Ala Asn Leu Tyr Ala His Val Asn Leu
          35          40          45

Ile Lys Asn Arg Ser Ile Tyr Asn Ser Leu Ser Pro Lys Tyr Lys Ser
          50          55          60

Val Leu Gly Leu Ile Ser Asn Leu Tyr Phe Ser Tyr Lys Lys Glu Asn
          65          70          75          80

Asn Asp Phe Ala Leu Leu Ile Met Gly Asn Phe Pro Lys Asp Ile Phe
          85          90          95

Trp Gly Ile His Lys Asn Arg Asn Thr Glu Ser Ile Gly Asn Ile Phe
          100          105          110

Thr Asn Pro Lys Trp Lys Leu Lys Asn Ser Asn Ile Tyr Ile Ile Pro
          115          120          125

Asn Lys Ala Arg Thr Ser Ile Ala Ile Thr Gln Lys Asp Ile Thr Ala
          130          135          140

Lys Asp Asn Asn Met Leu Thr Thr Lys Tyr Ile Gly Glu Ile Glu Lys
          145          150          155          160

Asn Glu Met Phe Phe Trp Ile Gln Asp Pro Thr Leu Leu Leu Pro Asn
          165          170          175

Gln Ile Val Ser Ser Lys Asn Leu Ile Pro Phe Ser Ser Gly Thr Leu
          180          185          190

Ser Ile Asn Ser Leu Asn Gln Glu Glu Tyr Ile Phe Lys Ser Leu Ile
          195          200          205

Lys Thr Asn Asn Pro Pro Ile Leu Lys Ile Leu Ser Lys Lys Leu Ile
          210          215          220

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Pro Thr Val Leu Thr Asn Met Thr Asn Leu Thr Ile Ser Ser His Ile  
 225 230 235 240

Lys Thr Thr Ile Lys Asp Gln Asn Thr Val Glu Ile Glu Phe Asn Ile  
 245 250 255

Gln Lys Ser Ser Val Glu Ser Leu Ile Glu Lys Leu Ala Ser Asn Ile  
 260 265 270

Gln Thr

<210> 525

<211> 257

<212> PRT

<213> Homo sapiens

<400> 525

Cys Ala Ser Leu Pro Tyr Thr Pro Pro Lys Gln Asn Leu Asn Tyr Leu  
 1 5 10 15

Met Glu Leu Leu Pro Gly Ala Asn Leu Tyr Ala His Val Asn Leu Ile  
 20 25 30

Lys Asn Arg Ser Ile Tyr Asn Ser Leu Ser Pro Lys Tyr Lys Ser Val  
 35 40 45

Leu Gly Leu Ile Ser Asn Leu Tyr Phe Ser Tyr Lys Lys Glu Asn Asn  
 50 55 60

Asp Phe Ala Leu Leu Ile Met Gly Asn Phe Pro Lys Asp Ile Phe Trp  
 65 70 75 80

Gly Ile His Lys Asn Arg Asn Thr Glu Ser Ile Gly Asn Ile Phe Thr  
 85 90 95

Asn Pro Lys Trp Lys Leu Lys Asn Ser Asn Ile Tyr Ile Ile Pro Asn  
 100 105 110

Lys Ala Arg Thr Ser Ile Ala Ile Thr Gln Lys Asp Ile Thr Ala Lys  
 115 120 125

Asp Asn Asn Met Leu Thr Thr Lys Tyr Ile Gly Glu Ile Glu Lys Asn  
 130 135 140

Glu Met Phe Phe Trp Ile Gln Asp Pro Thr Leu Leu Leu Pro Asn Gln  
 145 150 155 160

Ile Val Ser Ser Lys Asn Leu Ile Pro Phe Ser Ser Gly Thr Leu Ser  
 165 170 175

Ile Asn Ser Leu Asn Gln Glu Glu Tyr Ile Phe Lys Ser Leu Ile Lys  
 180 185 190

Thr Asn Asn Pro Pro Ile Leu Lys Ile Leu Ser Lys Lys Leu Ile Pro  
 195 200 205

Thr Val Leu Thr Asn Met Thr Asn Leu Thr Ile Ser Ser His Ile Lys

210 215 220

Thr Thr Ile Lys Asp Gln Asn Thr Val Glu Ile Glu Phe Asn Ile Gln  
 225 230 235 240

Lys Ser Ser Val Glu Ser Leu Ile Glu Lys Leu Ala Ser Asn Ile Gln  
 245 250 255

Thr

<210> 526  
 <211> 825  
 <212> DNA  
 <213> Homo sapiens

<400> 526  
 atgttaaaaa cattaacaaa aataattacc atttcatgcc tcatagtggg atgcgcaagc 60  
 ctgccttaca ctccctccaaa acaaaatcta aattacttaa tggaaactttt acctggcgca 120  
 aatttatacg cccatgtaaa tttaattaaa aacagggtcta ttataaactc ttttaagccct 180  
 aaatataaat cagttcttgg gcttataaagc aattttatact ttagctataa aaaagaaaaat 240  
 aacgattttg ctctactaat aatgggtaat ttcccaaaaag atattttctg gggaaattcat 300  
 aaaaatagaa atacagaatc aataggcaat atattttacaa atccaaaatg gaaacttaaa 360  
 aattcaaaata tatacattat tccaaacaaa gctagaacta gcattgcaat aacccaaaaa 420  
 gatataaccg caaaagacaa taatatgcta acaacaaaat atattgggga aatagaaaaa 480  
 aatgaaatgt ttttttggat tcaagatcca acattattgc tcccaaacca aatagtaagc 540  
 agcaaaaatt taattccctt tagcagtgga actttgtcta taaacagctt aaatcaagaa 600  
 gaatatattt ttaaatecctt aatcaaaaac aataatccac caatactaaa aatattgtca 660  
 aaaaagttta ttccaacggt cttgacaaac atgacaaaacc tcacaatatc aagccacata 720  
 aagaccacaa taaaagacca aaatacggtt gaaatagaat ttaatatattca aaaatctagt 780  
 gttgaaagcc ttatagaaaa actagcttca aatattcaaa cctaa 825

<210> 527  
 <211> 774  
 <212> DNA  
 <213> Homo sapiens

<400> 527  
 tgcgcaagcc tgccttacac tccctccaaa caaaatctaa attacttaat ggaactttta 60  
 cctggcgcaa atttatacgc ccattgtaaa ttaattaaaa acagggtctat ttataactct 120  
 ttaagcccta aatataaatc agttcttggg cttataagca attttatactt tagctataaa 180  
 aaagaaaata acgattttgc tctactaata atgggtaatt tcccaaaaaga tatttttctgg 240  
 ggaattcata aaaaatagaaa tacagaatca ataggcaata tatttacaaa tccaaaatgg 300  
 aaacttaaaa attcaaatat atacattatt ccaaaacaaag ctagaactag cattgcaata 360  
 acccaaaaaag atataaccgc aaaagacaat aatatgctaa caacaaaata tattggggaa 420  
 atagaaaaaa atgaaatgtt ttttttgatt caagatccaa cattattgct cccaaaccaa 480  
 atagtaagca gcaaaaattt aattcccttt agcagtgga ctttgtctat aaacagctta 540  
 aatcaagaag aatatatttt taaatcctta atcaaaaacaa ataatccacc aatactaaaa 600  
 atattgtcaa aaaaagttat tccaaccgtc ttgacaaaac tgacaaacct cacaaatatca 660  
 agccacataa agaccacaat aaaagaccaa aatacggttg aaatagaatt taatatattca 720  
 aaatctagtg ttgaaagcct tatagaaaaa ctagcttcaa atattcaaac ctaa 774

<210> 528  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

<400> 528

Met Asn Thr Lys Thr Leu Tyr Leu Ile Ser Leu Ile Leu Leu Ala Cys  
 1 5 10 15  
 Asn Lys Asn Asn Lys Ile Pro Leu Ile Gln Lys Leu Asp Leu Pro Lys  
 20 25 30  
 Ser Ser Ile Leu Gly Phe Ser Asn Lys Met Gly Ile Ile Ile Lys Asp  
 35 40 45  
 Tyr Ala Phe Leu Ser Lys Ser Thr Lys Lys Asn Ser Glu Leu Asp Tyr  
 50 55 60  
 Asp Tyr Ala Ile Leu Leu Arg Lys Asp Glu Val Val Lys Ile Glu Lys  
 65 70 75 80  
 Thr Leu Glu Lys Thr Glu Arg Tyr Gly Ile Glu Gly Asn Trp Ile Leu  
 85 90 95  
 Val Asn Tyr Lys Gly Thr Lys Arg Tyr Ile Phe Ser Lys Asp Ile Asn  
 100 105 110  
 Ile Val Asn Asn Leu Ile Ile Asp His Ser Lys  
 115 120

<210> 529  
 <211> 108  
 <212> PRT  
 <213> Homo sapiens

<400> 529  
 Cys Asn Lys Asn Asn Lys Ile Pro Leu Ile Gln Lys Leu Asp Leu Pro  
 1 5 10 15  
 Lys Ser Ser Ile Leu Gly Phe Ser Asn Lys Met Gly Ile Ile Ile Lys  
 20 25 30  
 Asp Tyr Ala Phe Leu Ser Lys Ser Thr Lys Lys Asn Ser Glu Leu Asp  
 35 40 45  
 Tyr Asp Tyr Ala Ile Leu Leu Arg Lys Asp Glu Val Val Lys Ile Glu  
 50 55 60  
 Lys Thr Leu Glu Lys Thr Glu Arg Tyr Gly Ile Glu Gly Asn Trp Ile  
 65 70 75 80  
 Leu Val Asn Tyr Lys Gly Thr Lys Arg Tyr Ile Phe Ser Lys Asp Ile  
 85 90 95  
 Asn Ile Val Asn Asn Leu Ile Ile Asp His Ser Lys  
 100 105

<210> 530  
 <211> 372  
 <212> DNA  
 <213> Homo sapiens

<400> 530  
 atgaatacaa aaacattata tttaatatcc ttaattcttt tagcttgcaa taaaaataac 60

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aaaattcctc tcattcaaaa attagatttg cccaaaagca gcattcttgg ctttagcaat 120
aaaatgggca taataataaa agattatgct tttcttagta aaagcactaa gaaaaatagc 180
gaattggatt atgattacgc aattctactc agaaaagacg aagtcgtaaa aattgaaaaa 240
acactagaaa aaacagagcg ctatggaatt gaaggaaatt ggatcctagt caattacaag 300
ggaactaaaa gatacatctt tagcaaagac atcaatatag tcaacaattt aataattgat 360
cattctaaat ag 372

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<210> 531  
 <211> 327  
 <212> DNA  
 <213> Homo sapiens

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<400> 531:
tgcaataaaa ataacaaaat tcctctcatt caaaaattag atttgcccaa aagcagcatt 60
cttggtttta gcaataaaaat gggcataata ataaaagatt atgcttttct tagtaaaagc 120
actaagaaaa atagcgaatt ggattatgat tacgcaattc tactcagaaa agacgaagtc 180
gtaaaaattg aaaaaacact agaaaaaaca gagcgctatg gaattgaagg aaattggatc 240
ctagtcaatt acaagggaac taaaagatac atcttttagca aagacatcaa tatagtcaac 300
aatttaataa ttgatcattc taaatag 327

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<210> 532  
 <211> 155  
 <212> PRT  
 <213> Homo sapiens

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<400> 532
Met Lys Lys Leu Ile Ile Ile Phe Thr Leu Phe Leu Ser Gln Ala Cys
 1             5             10             15
Asn Leu Ser Thr Met His Lys Ile Asp Thr Lys Glu Asp Met Lys Ile
      20             25             30
Leu Tyr Ser Glu Ile Ala Glu Leu Arg Lys Lys Leu Asn Leu Asn His
      35             40             45
Leu Glu Ile Asp Asp Thr Leu Glu Lys Val Ala Lys Glu Tyr Ala Ile
      50             55             60
Lys Leu Gly Glu Asn Arg Thr Ile Thr His Thr Leu Phe Gly Thr Thr
      65             70             75             80
Pro Met Gln Arg Ile His Lys Tyr Asp Gln Ser Phe Asn Leu Thr Arg
      85             90             95
Glu Ile Leu Ala Ser Gly Ile Glu Leu Asn Arg Val Val Asn Ala Trp
      100            105            110
Leu Asn Ser Pro Ser His Lys Glu Ala Leu Ile Asn Thr Asp Thr Asp
      115            120            125
Lys Ile Gly Gly Tyr Arg Leu Lys Thr Thr Asp Asn Ile Asp Ile Phe
      130            135            140
Val Val Leu Phe Gly Lys Arg Lys Tyr Lys Asn
      145            150            155

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<210> 533  
 <211> 140



&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 533

Cys Asn Leu Ser Thr Met His Lys Ile Asp Thr Lys Glu Asp Met Lys  
 1 5 10 15

Ile Leu Tyr Ser Glu Ile Ala Glu Leu Arg Lys Lys Leu Asn Leu Asn  
 20 25 30

His Leu Glu Ile Asp Asp Thr Leu Glu Lys Val Ala Lys Glu Tyr Ala  
 35 40 45

Ile Lys Leu Gly Glu Asn Arg Thr Ile Thr His Thr Leu Phe Gly Thr  
 50 55 60

Thr Pro Met Gln Arg Ile His Lys Tyr Asp Gln Ser Phe Asn Leu Thr  
 65 70 75 80

Arg Glu Ile Leu Ala Ser Gly Ile Glu Leu Asn Arg Val Val Asn Ala  
 85 90 95

Trp Leu Asn Ser Pro Ser His Lys Glu Ala Leu Ile Asn Thr Asp Thr  
 100 105 110

Asp Lys Ile Gly Gly Tyr Arg Leu Lys Thr Thr Asp Asn Ile Asp Ile  
 115 120 125

Phe Val Val Leu Phe Gly Lys Arg Lys Tyr Lys Asn  
 130 135 140

&lt;210&gt; 534

&lt;211&gt; 468

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 534

atgaaaaaat tgattataat ttttacactg tttttatctc aagcatgcaa tttaagtaca 60  
 atgcataaaa tagatacaaa agaagatatg aaaattctat attcagaaat tgctgaattg 120  
 agaaaaaaat taaatctaaa ccatctagaa atagatgata cccttgaaaa agttgcaaaa 180  
 gaatatgccca ttaaactggg agaaaataga acaataactc acaccctttt tggcacaacc 240  
 ccaatgcaaa gaatacataa atacgatcaa tcctttaatt taacaagaga aatactggca 300  
 tcaggaattg aacttaacag agtagttaat gcatggctta atagtccaag ccacaaagaa 360  
 gctcttatta atacagatac cgataaaaata ggtggctata gattaaaaac gactgacaat 420  
 atagatatat ttgtagttct ttttgaaaa agaaaatata agaattga 468

&lt;210&gt; 535

&lt;211&gt; 423

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 535

tgcaatttaa gtacaatgca taaaatagat acaaaagaag atatgaaaat tctatattca 60  
 gaaattgctg aattgagaaa aaaattaaat cttaaccatc tagaaataga tgataccctt 120  
 gaaaaagttg caaaagaata tgccattaaa ctgggagaaa atagaacaat aactcacacc 180  
 ctttttggca caacccaat gcaaagaata cataaatagc atcaatcctt taattttaaca 240  
 agagaaatac tggcatcagg aattgaactt aacagagtag ttaatgcatg gcttaatagt 300  
 ccaagccaca aagaagctct tattaataga gataccgata aaatagggtg ctatagatta 360

aaaacgactg acaatataga tatatttgta gttctttttg gaaaaagaaa atataagaat 420  
tga 423

<210> 536

<211> 157

<212> PRT

<213> Homo sapiens

<400> 536

Met Ile Arg Val Leu Leu Gly Ser Leu Ala Val Ser Phe Leu Phe Ser  
1 5 10 15

Ile Cys Met Val Phe Leu Asn Tyr Asp Asn Leu Phe Ser Lys Lys Val  
20 25 30

Phe Tyr Phe His Ser Ser Lys Gly Phe Val Ala Asn Leu Arg Tyr Leu  
35 40 45

Arg Asp Glu Gln Asn Leu Lys Asp Asn Leu Asp Leu Leu Val Lys Asp  
50 55 60

Phe Leu Leu Gly Ser Asn Glu Gly Phe Ser Phe Gly Phe Leu Leu Ser  
65 70 75 80

Asp Ser Arg Phe Leu Tyr Ser Phe Leu Lys Asn Gly Val Tyr Tyr Val  
85 90 95

Asn Leu Ser Arg Glu Phe Tyr Asp Ser Phe Asn Asn Gly Asp Tyr Asn  
100 105 110

Glu Ser Asn Glu Ser Phe Asp Val Lys Val Asn Leu Phe Ala Met Ser  
115 120 125

Leu Ile Lys Thr Met Arg Phe Asn Tyr Pro Gly Lys Ile Lys Lys Ile  
130 135 140

Val Ile Leu Val Glu Gly Cys Ile Leu Lys Glu Gln Ser  
145 150 155

<210> 537

<211> 140

<212> PRT

<213> Homo sapiens

<400> 537

Cys Met Val Phe Leu Asn Tyr Asp Asn Leu Phe Ser Lys Lys Val Phe  
1 5 10 15

Tyr Phe His Ser Ser Lys Gly Phe Val Ala Asn Leu Arg Tyr Leu Arg  
20 25 30

Asp Glu Gln Asn Leu Lys Asp Asn Leu Asp Leu Leu Val Lys Asp Phe  
35 40 45

Leu Leu Gly Ser Asn Glu Gly Phe Ser Phe Gly Phe Leu Leu Ser Asp  
50 55 60

Ser Arg Phe Leu Tyr Ser Phe Leu Lys Asn Gly Val Tyr Tyr Val Asn

[illegible]

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<210> 538
<211> 474
<212> DNA
<213> Homo sapiens
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<400> 538
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tttttaaatt atgataatct tttttcaaaa aaggtttttt attttcattc tagcaaggga 120
tttgttgcta atttaagata tttaagagat gaacaaaatt tgaaagataa ttttagatctt 180
ttagtaaaaag attttctttt aggaagcaat gaagggtttt cttttgggtt tttattaagt 240
gattccaagat ttttatattc ttttttaaa aatggagttt attatgtaa tctttcaaga 300
gaatttttatg attcttttaa taatggtgat tataatgaat ctaatgaatc ttttgatgtt 360
aagggtcaatc tttttgctat gtcttttaata aaaacaatgc gctttaacta tcctggtaag 420
ataaaaaaga ttgttattct tgttgaaggg tgtatcttaa aggagcaaag ttga 474

```

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<210> 539
<211> 423
<212> DNA
<213> Homo sapiens
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<400>	539								
tgtatgggttt	ttttaaat	tgataatc	ttttcaaaa	agggttttta	ttttcattct	60			
agcaagggat	ttgttgctaa	tttaagatat	ttaagagatg	aacaaaattt	gaaagataat	120			
ttagatcttt	tagtaaaa	ttttctttta	ggaagcaatg	aagggttttc	ttttgggttt	180			
ttattaagtg	attcaagatt	tttatattct	tttttaaa	atggagttta	ttatgtaa	240			
ctttcaagag	aattttatga	ttctttta	aatggtgatt	ataatgaatc	taatgaatct	300			
tttgatgtta	aggccaatct	ttttgctatg	tctttaataa	aaacaatgcg	ctttaactat	360			
cctggtaaga	taaaaaagat	tgttattc	gttgagggt	gtatcttaaa	ggagcaaagt	420			
tga						423			

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<210> 540
<211> 168
<212> PRT
<213> Homo sapiens
```

```

<400> 540
Met Ala Ile Lys Tyr Ala Arg Glu Asn Asn Ile Pro Phe Leu Gly Ile
  1             5             10             15
Cys Leu Gly Leu Gln Leu Ala Val Ile Glu Phe Ala Arg Asn Val Cys
      20             25             30
Gly Ile Leu Asp Ala Asp Thr Glu Glu Asn Leu Ala Arg Asp Lys Pro
      35             40             45

```

Leu Lys Ser Pro Val Ile His Leu Leu Pro Glu Gln Lys Gly Ile Lys  
 50 55 60

Asp Lys Gly Ala Thr Met Arg Leu Gly Gly Tyr Pro Val Ile Leu Lys  
 65 70 75 80

Lys Asn Thr Ile Ala Phe Lys Leu Tyr Gly Gln Asp Arg Ile Ile Glu  
 85 90 95

Arg Phe Arg His Arg Tyr Glu Val Asn Asn Asp Tyr Ile Asp Leu Phe  
 100 105 110

Ala Lys Asn Gly Leu Ile Val Ser Gly Phe Ser Ser Asp Phe Lys Met  
 115 120 125

Ala Lys Leu Ile Glu Ile Pro Glu Asn Lys Phe Phe Val Ala Cys Gln  
 130 135 140

Phe His Pro Glu Leu Ile Thr Arg Ile Glu Asn Pro Ala Lys Leu Phe  
 145 150 155 160

Leu Gly Leu Ile Lys Ala Cys Ile  
 165

<210> 541

<211> 152

<212> PRT

<213> Homo sapiens

<400> 541

Cys Leu Gly Leu Gln Leu Ala Val Ile Glu Phe Ala Arg Asn Val Cys  
 1 5 10 15

Gly Ile Leu Asp Ala Asp Thr Glu Glu Asn Leu Ala Arg Asp Lys Pro  
 20 25 30

Leu Lys Ser Pro Val Ile His Leu Leu Pro Glu Gln Lys Gly Ile Lys  
 35 40 45

Asp Lys Gly Ala Thr Met Arg Leu Gly Gly Tyr Pro Val Ile Leu Lys  
 50 55 60

Lys Asn Thr Ile Ala Phe Lys Leu Tyr Gly Gln Asp Arg Ile Ile Glu  
 65 70 75 80

Arg Phe Arg His Arg Tyr Glu Val Asn Asn Asp Tyr Ile Asp Leu Phe  
 85 90 95

Ala Lys Asn Gly Leu Ile Val Ser Gly Phe Ser Ser Asp Phe Lys Met  
 100 105 110

Ala Lys Leu Ile Glu Ile Pro Glu Asn Lys Phe Phe Val Ala Cys Gln  
 115 120 125

Phe His Pro Glu Leu Ile Thr Arg Ile Glu Asn Pro Ala Lys Leu Phe  
 130 135 140

Leu Gly Leu Ile Lys Ala Cys Ile  
145 150

<210> 542  
<211> 507  
<212> DNA  
<213> Homo sapiens

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<400> 542
atggctatta aatatgctcg tgagaataat attccctttc ttggaatttg tcttggtttg 60
cagcttgctg taatagaatt tgctcgtaat gtttgtggaa tacttgatgc tgatacggag 120
gaaaatttag caagagacaa gcccttaaaa agtcctgtta tccatttact tcctgagcaa 180
aagggaatta aagataaggg cgctacaatg aggcttggtg gatatacctgt gattctttaa 240
aagaatacaa tagcttttaa actttatggc caagatcgga taattgaaag atttagacat 300
aggtatgaag tcaataatga ttatatagat ttatttgcaa aaaatgggct tatagtatct 360
ggattttcaa gtgattttta aatggcaaaa ttaatagaaa ttcctgaaaa taaatttttc 420
gtagcttgcc agtttcatcc agaacttatt acaagaatag aaaatccagc caagcttttt 480
ctaggattaa ttaaagcttg tatttga 507
```

<210> 543  
<211> 459  
<212> DNA  
<213> Homo sapiens

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<400> 543
tgtcttggtt tgcagcttgc tgtaatagaa tttgctcgta atgtttgtgg aatacttgat 60
gctgatacgg aggaaaattt agcaagagac aagcccttaa aaagtcctgt tatccattta 120
cttcctgagc aaaaggggat taaagataag ggcgctacaa tgaggcttgg tggatatacct 180
gtgattctta aaaagaatac aatagctttt aaactttatg gccaaagatcg gataattgaa 240
agatttagac ataggtatga agtcaataat gattatatag atttatttgc aaaaaatggg 300
cttatagtat ctggattttc aagtgatttt aaaatggcaa aattaataga aattcctgaa 360
aataaatttt tcgtagcttg ccagtttcat ccagaactta ttacaagaat agaaaatcca 420
gccaaagcttt ttctaggatt aattaaagct tgtatttga 459
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<210> 544  
<211> 497  
<212> PRT  
<213> Homo sapiens

<220>  
<221> SITE  
<222> (198)  
<223> Xaa equals any of the naturally occurring L-amino acids

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<400> 544
Met Asn Lys Thr Lys Asn Arg Ser Leu Thr Tyr Phe Ile Ile Leu Ser
  1          5          10          15

Cys Ile Ser Leu Phe Gly Ala Asn Asn Asn Thr Ile Ser Tyr Ser Ser
          20          25          30

Ile Glu Ile Pro Leu Glu Asp Leu Ser Glu Glu Phe Lys Ser Ser Gly
          35          40          45

Asn Lys Ser Asp Gln Ile Asn Thr Ser Lys His Leu Asn Lys Asn Ile
          50          55          60

Val Ser Tyr Glu Asp Pro Lys Lys Gly Lys Asp Leu Lys Leu Pro Glu
```

65		70		75		80
Asn Ile Arg Asp Lys Lys Leu Pro Gln Lys Arg Met Asp Glu Asn Asp						
	85			90		95
Leu Lys Ser Val Ile Glu Asn Tyr Glu Asn Lys Ile Lys Asn Ile Glu						
	100			105		110
Lys Leu Leu Lys Thr Lys Asn Gln Lys Thr Ser Glu Asn Glu Asn Lys						
	115			120		125
Lys Ile Glu Ser Ile Glu Lys Lys Ala Lys Lys Tyr Glu Ile Leu Thr						
	130			135		140
Asn Lys Leu Lys Asn Glu Ile Val Glu Ile Lys Lys Leu Leu Asn Lys						
	145			150		155
Lys Ile Lys Pro Lys Glu Asp Glu Asn Tyr Glu Lys Ile Asn Ile Glu						
	165			170		175
Asn Ile Glu Glu Glu Thr Asp Asp Asp Phe Glu Asp Asn Tyr Glu Tyr						
	180			185		190
Asn Asp Glu Ile Glu Xaa Thr Asn Glu Asp Asn Tyr Pro Ser Asn Glu						
	195			200		205
Gly Ile Ile Asn Asn Leu Lys Glu Asn Leu Asn Glu Asn Glu Lys Tyr						
	210			215		220
Tyr Ala Ile Asn Glu Lys Lys Ile Asp Glu Leu Glu Asp Arg Ile Asn						
	225			230		235
Glu Asn Glu Asn Thr Ile Leu Asp Leu Gln Arg Glu Leu Arg Asn Phe						
	245			250		255
Lys Lys Lys Asp Asn Ser Asp Lys Asn Leu Glu Glu Ile Glu Glu Asn						
	260			265		270
Leu Ser Ser Ile Gly Arg Ile Ile Asn Asp Leu Lys Arg Lys Ile Ser						
	275			280		285
Ala Asn Glu Ala Ile Asn Lys Glu Asn Gln Lys Lys Ile Arg Thr Asp						
	290			295		300
Lys His Lys Leu Lys Glu Leu Glu Asp Lys Ile Lys Glu Asn Glu Glu						
	305			310		315
Thr Ile Leu Lys Leu Gln Lys Glu Leu Asn Asn Phe Lys Lys Lys Glu						
	325			330		335
Ile Tyr Gln Lys Pro Leu Asn Glu Glu Thr Phe Thr Pro Ser Ile Thr						
	340			345		350
Ser Lys Asn Asp Asp Leu Glu Glu Asn Lys Lys Leu Lys Lys Glu Tyr						
	355			360		365
Leu Lys Pro Ile Glu Lys Lys Glu Ser Arg Asp Leu Glu Glu Asn Thr						
	370			375		380

Lys Ser Thr Pro Lys Thr Thr Met Ile Lys Thr Ala Asp Phe Gln Ile  
385 390 395 400

Tyr Pro Asp Ile Tyr Leu Asn Asn Tyr Lys Phe Lys Glu Lys Gly Asp  
405 410 415

Gln Phe Ala Phe Lys Lys Glu Asn Thr Tyr Tyr Ile Glu Ile Asp Pro  
420 425 430

Thr Asn Asn Leu Asn Glu Ala Leu Lys Asn His Glu Ile Ile Ser Lys  
435 440 445

Tyr Lys Phe Glu Lys Tyr Phe Ile Asn Pro Ile Leu Lys Asn Lys Glu  
450 455 460

Glu Phe Phe Arg Asn Leu Ile Glu Val Lys Asn Ile His Glu Leu Gly  
465 470 475 480

Ile Met Tyr Lys Asn Leu Lys Pro Glu Phe Lys Gln Ile Lys Ile Ile  
485 490 495

Lys

<210> 545

<211> 481

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (182)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 545

Cys Ile Ser Leu Phe Gly Ala Asn Asn Asn Thr Ile Ser Tyr Ser Ser  
1 5 10 15

Ile Glu Ile Pro Leu Glu Asp Leu Ser Glu Glu Phe Lys Ser Ser Gly  
20 25 30

Asn Lys Ser Asp Gln Ile Asn Thr Ser Lys His Leu Asn Lys Asn Ile  
35 40 45

Val Ser Tyr Glu Asp Pro Lys Lys Gly Lys Asp Leu Lys Leu Pro Glu  
50 55 60

Asn Ile Arg Asp Lys Lys Leu Pro Gln Lys Arg Met Asp Glu Asn Asp  
65 70 75 80

Leu Lys Ser Val Ile Glu Asn Tyr Glu Asn Lys Ile Lys Asn Ile Glu  
85 90 95

Lys Leu Leu Lys Thr Lys Asn Gln Lys Thr Ser Glu Asn Glu Asn Lys  
100 105 110

Lys Ile Glu Ser Ile Glu Lys Lys Ala Lys Lys Tyr Glu Ile Leu Thr

115				120				125							
Asn	Lys	Leu	Lys	Asn	Glu	Ile	Val	Glu	Ile	Lys	Lys	Leu	Leu	Asn	Lys
130						135					140				
Lys	Ile	Lys	Pro	Lys	Glu	Asp	Glu	Asn	Tyr	Glu	Lys	Ile	Asn	Ile	Glu
145					150					155					160
Asn	Ile	Glu	Glu	Glu	Thr	Asp	Asp	Asp	Phe	Glu	Asp	Asn	Tyr	Glu	Tyr
				165					170					175	
Asn	Asp	Glu	Ile	Glu	Xaa	Thr	Asn	Glu	Asp	Asn	Tyr	Pro	Ser	Asn	Glu
			180					185					190		
Gly	Ile	Ile	Asn	Asn	Leu	Lys	Glu	Asn	Leu	Asn	Glu	Asn	Glu	Lys	Tyr
	195						200						205		
Tyr	Ala	Ile	Asn	Glu	Lys	Lys	Ile	Asp	Glu	Leu	Glu	Asp	Arg	Ile	Asn
	210					215					220				
Glu	Asn	Glu	Asn	Thr	Ile	Leu	Asp	Leu	Gln	Arg	Glu	Leu	Arg	Asn	Phe
225					230					235					240
Lys	Lys	Lys	Asp	Asn	Ser	Asp	Lys	Asn	Leu	Glu	Glu	Ile	Glu	Glu	Asn
			245						250					255	
Leu	Ser	Ser	Ile	Gly	Arg	Ile	Ile	Asn	Asp	Leu	Lys	Arg	Lys	Ile	Ser
			260					265					270		
Ala	Asn	Glu	Ala	Ile	Asn	Lys	Glu	Asn	Gln	Lys	Lys	Ile	Arg	Thr	Asp
	275						280						285		
Lys	His	Lys	Leu	Lys	Glu	Leu	Glu	Asp	Lys	Ile	Lys	Glu	Asn	Glu	Glu
	290					295					300				
Thr	Ile	Leu	Lys	Leu	Gln	Lys	Glu	Leu	Asn	Asn	Phe	Lys	Lys	Lys	Glu
305					310					315					320
Ile	Tyr	Gln	Lys	Pro	Leu	Asn	Glu	Glu	Thr	Phe	Thr	Pro	Ser	Ile	Thr
			325						330					335	
Ser	Lys	Asn	Asp	Asp	Leu	Glu	Glu	Asn	Lys	Lys	Leu	Lys	Lys	Glu	Tyr
			340					345					350		
Leu	Lys	Pro	Ile	Glu	Lys	Lys	Glu	Ser	Arg	Asp	Leu	Glu	Glu	Asn	Thr
		355					360					365			
Lys	Ser	Thr	Pro	Lys	Thr	Thr	Met	Ile	Lys	Thr	Ala	Asp	Phe	Gln	Ile
	370					375					380				
Tyr	Pro	Asp	Ile	Tyr	Leu	Asn	Asn	Tyr	Lys	Phe	Lys	Glu	Lys	Gly	Asp
385					390					395					400
Gln	Phe	Ala	Phe	Lys	Lys	Glu	Asn	Thr	Tyr	Tyr	Ile	Glu	Ile	Asp	Pro
			405						410					415	
Thr	Asn	Asn	Leu	Asn	Glu	Ala	Leu	Lys	Asn	His	Glu	Ile	Ile	Ser	Lys
			420						425					430	



Tyr Lys Phe Glu Lys Tyr Phe Ile Asn Pro Ile Leu Lys Asn Lys Glu  
435 440 445

Glu Phe Phe Arg Asn Leu Ile Glu Val Lys Asn Ile His Glu Leu Gly  
450 455 460

Ile Met Tyr Lys Asn Leu Lys Pro Glu Phe Lys Gln Ile Lys Ile Ile  
465 470 475 480

Lys

<210> 546

<211> 1493

<212> DNA

<213> Homo sapiens

<400> 546

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atgaataaaaa caaaaaatcg aagccttacg tattttataa tactttcatg tatatcatta 60
tttgggggcta ataataatac aataagctac tctagcattg aaattcctct agaagactta 120
agtgaagaat ttaaaagttc tgggaataaa agcgatcaaa taaatacctc aaaacattta 180
aacaaaaaca tagtttctta tgaagaccca aaaaagggtg aagatctaaa attgccagaa 240
aatataagag acaaaaaact accccaaaaa agaatggacg aaaatgatct aaaatctgtg 300
attgaaaatt atgaaaataa aattaaaaac atagaaaagc ttttaaaaac caaaaatcaa 360
aaaacatcgg aaaatgaaaa taaaaaaata gaatcaatcg aaaaaaaagc aaaaaaatat 420
gaaattttta ccaataaatt aaaaaacgaa atagtagaaa taaaaaagct ccttaacaaa 480
aaaatcaagc ctaaaagaaga tgaaaattac gaaaaaataa atattgaaaa cattgaagaa 540
gaaactgatg atgattttga agacaattat gaataataat atgaaattga agaacaaatg 600
aggacaatta cccttctaata gaaggaataa taaacaatct aaaagaaaat cttaatgaaa 660
acgaaaaata ttatgctatt aatgaaaaaa aaatcgatga acttgaagac agaatcaacg 720
agaatgaaaa cactatttta gacttgcaaa gagaattaag gaatttttaa aaaaaagata 780
actcagataa aaacttagaa gaaattgagg aaaatttatc ttcaatagga agaataatta 840
atgatctaaa aagaaaaatc agcgcaaagc aagcaataaa caaagaaaat caaaaaaaa 900
taagaactga taaacacaaa ctcaaagaat tagaagataa aataaaggaa aatgaagaga 960
ctatttttaa acttcaaaaa gaattaaaca attttaaaaa aaaagaaatt tatcaaaaaa 1020
ccttaaatag agaaaatttc actccaagca ttacaagtaa aaatgacgac ttagaagaaa 1080
ataagaaatt aaaaaaggaa tatttaaagc ccatagaaaa aaaagaaaagc cgagatctag 1140
aagaaaatac taaaagcacc ccaaaaacaa ctatgataaa aacagcagat tttcaaactc 1200
accctgacat atatcttaat aattataaat ttaaagaaaa gggagatcaa tttgcattta 1260
aaaaagaaaa cacatactat attgaaatag atccactaa caattttaa gaggctttta 1320
aaaatcatga aataatctca aaatataaat ttgaaaaata tttcattaac cctattctaa 1380
aaaataaaga agaatttttt agaaacttaa tagaagtcaa aaatatccac gaactaggaa 1440
ttatgtataa aaatctaaag cctgaattta agcaataaaa aataattaaa taa 1493
```

<210> 547

<211> 1445

<212> DNA

<213> Homo sapiens

<400> 547

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tgtatatcat tatttggggc taataataat acaataagct actctagcat tgaaattcct 60
ctagaagact taagtgaaga atttaaaagt tctgggaata aaagcgatca aataaatacc 120
tcaaaacatt taaacaaaaa catagtttct tatgaagacc caaaaaaggg taaagatcta 180
aaattgccag aaaaataaag agacaaaaaa ctaccccaaa aaagaatgga cgaaaatgat 240
ctaaaatctg taattgaaaa ttatgaaaat aaaattaaaa acatagaaaa gcttttataa 300
accaaaaatc aaaaaacatc ggaaaatgaa aataaaaaaa tagaatcaat cgaaaaaaa 360
gcaaaaaaat atgaaatttt aaccaataaa ttaaaaaacg aaatagtaga aataaaaaag 420
```

```

ctccttaaca aaaaaatcaa gcctaaagaa gatgaaaatt acgaaaaaat aaatatggaa 480
aacattgaag aagaaactga tgatgatttt gaagacaatt atgaatataa tgatgaaatt 540
gaagaacaaa tgaggacaat tacccttcta atgaaggaaat aataaacaat ctaaaagaaa 600
atcttaataa aaacgaaaaa tattatgcta ttaatgaaaa aaaaatcgat gaacttgaag 660
acagaatcaa cgagaatgaa aacactattt tagacttgca aagagaatta aggaatttta 720
aaaaaaaaaaga taactcagat aaaaacttag aagaaattga ggaaaattta tcttcaatag 780
gaagaataat taatgatcta aaaagaaaaa tcagcgcaaa tgaagcaata aacaaagaaa 840
atcaaaaaaa aataagaact gataaacaca aactcaaaga attagaagat aaaataaagg 900
aaaatgaaga gactattttta aaacttcaaa aagaattaaa caatttttaa aaaaaagaaa 960
tttatcaaaa acccttaaat gaagaaactt tcactccaag cattacaagt aaaaatgacg 1020
acttagaaga aaataagaaa ttaaaaaagg aatattttaa gcccatagaa aaaaaagaaa 1080
gccgagatct agaagaaaat actaaaagca ccccaaaaac aactatgata aaaacagcag 1140
attttcaaat ctaccctgac atatatctta ataattataa atttaaagaa aaggagatc 1200
aatttgcatt taaaaaagaa aacacatact atattgaaat agatcccact aacaatttaa 1260
atgaggcttt aaaaaatcat gaaataatct caaaatataa atttgaaaaa tatttcatta 1320
accctattct aaaaaataaa gaagaatttt ttagaaactt aatagaagtc aaaaatatcc 1380
acgaactagg aattatgtat aaaaatctaa agcctgaatt taagcaaata aaaataatta 1440
aataa 1445

```

<210> 548

<211> 575

<212> PRT

<213> Homo sapiens

<400> 548

```

Met Asn Thr Lys Gly Lys Val Val Gly Val Asn Gly Asn Leu Val Thr
  1           5           10          15

```

```

Ile Glu Val Glu Gly Ser Val Ser Met Asn Glu Val Leu Phe Val Lys
      20           25           30

```

```

Thr Ala Gly Arg Asn Leu Lys Ala Glu Val Ile Arg Ile Arg Gly Asn
    35           40           45

```

```

Glu Val Asp Ala Gln Val Phe Glu Leu Thr Lys Gly Ile Ser Val Gly
    50           55           60

```

```

Asp Leu Val Glu Phe Thr Asp Lys Leu Leu Thr Val Glu Leu Gly Pro
    65           70           75           80

```

```

Gly Leu Leu Thr Gln Val Tyr Asp Gly Leu Gln Asn Pro Leu Pro Glu
      85           90           95

```

```

Leu Ala Ile Gln Cys Gly Phe Phe Leu Glu Arg Gly Val Tyr Leu Arg
    100          105          110

```

```

Pro Leu Asn Lys Asp Lys Lys Trp Asn Phe Lys Lys Thr Ser Lys Val
    115          120          125

```

```

Gly Asp Ile Val Ile Ala Gly Asp Phe Leu Gly Phe Val Ile Glu Gly
    130          135          140

```

```

Thr Val His His Gln Ile Met Ile Pro Phe Tyr Lys Arg Asp Ser Tyr
    145          150          155          160

```

```

Lys Ile Val Glu Ile Val Ser Asp Gly Asp Tyr Ser Ile Asp Glu Gln
    165          170          175

```

Ile Ala Val Ile Glu Asp Asp Ser Gly Met Arg His Asn Ile Thr Met  
 180 185 190  
 Ser Phe His Trp Pro Val Lys Val Pro Ile Thr Asn Tyr Lys Glu Arg  
 195 200 205  
 Leu Ile Pro Ser Glu Pro Met Leu Thr Gln Thr Arg Ile Ile Asp Thr  
 210 215 220  
 Phe Phe Pro Val Ala Lys Gly Gly Thr Phe Cys Ile Pro Gly Pro Phe  
 225 230 235 240  
 Gly Ala Gly Lys Thr Val Leu Gln Gln Val Thr Ser Arg Asn Ala Asp  
 245 250 255  
 Val Asp Val Val Ile Ile Ala Ala Cys Gly Glu Arg Ala Gly Glu Val  
 260 265 270  
 Val Glu Thr Leu Lys Glu Phe Pro Glu Leu Met Asp Pro Lys Thr Gly  
 275 280 285  
 Lys Ser Leu Met Asp Arg Thr Cys Ile Ile Cys Asn Thr Ser Ser Met  
 290 295 300  
 Pro Val Ala Ala Arg Glu Ala Ser Val Tyr Thr Ala Ile Thr Ile Gly  
 305 310 315 320  
 Glu Tyr Tyr Arg Gln Met Gly Leu Asp Ile Leu Leu Leu Ala Asp Ser  
 325 330 335  
 Thr Ser Arg Trp Ala Gln Ala Met Arg Glu Met Ser Gly Arg Leu Glu  
 340 345 350  
 Glu Ile Pro Gly Glu Glu Ala Phe Pro Ala Tyr Leu Glu Ser Val Ile  
 355 360 365  
 Ala Ser Phe Tyr Glu Arg Ala Gly Ile Val Val Leu Asn Asn Gly Asp  
 370 375 380  
 Ile Gly Ser Val Thr Val Gly Gly Ser Val Ser Pro Ala Gly Gly Asn  
 385 390 395 400  
 Phe Glu Glu Pro Val Thr Gln Ala Thr Leu Lys Val Val Gly Ala Phe  
 405 410 415  
 His Gly Leu Thr Arg Glu Arg Ser Asp Ala Arg Lys Phe Pro Ala Ile  
 420 425 430  
 Ser Pro Leu Glu Ser Trp Ser Lys Tyr Lys Gly Val Ile Asp Gln Lys  
 435 440 445  
 Lys Thr Glu Tyr Ala Arg Ser Phe Leu Val Lys Gly Asn Glu Ile Asn  
 450 455 460  
 Gln Met Met Lys Val Val Gly Glu Glu Gly Ile Ser Asn Asp Asp Phe  
 465 470 475 480  
 Leu Ile Tyr Leu Lys Ser Glu Leu Leu Asp Ser Cys Tyr Leu Gln Gln

485                      490                      495  
 Asn Ser Phe Asp Ser Ile Asp Ala Ala Val Ser Ser Glu Arg Gln Asn  
                          500                      505                      510  
 Tyr Met Phe Asp Ile Val Tyr Asn Ile Leu Lys Thr Asn Phe Glu Phe  
                          515                      520                      525  
 Ser Asp Lys Leu Gln Ala Arg Asp Phe Ile Asn Glu Leu Arg Gln Asn  
                          530                      535                      540  
 Leu Leu Asp Met Asn Leu Ser Ser Phe Lys Asp His Lys Phe Asn Lys  
                          545                      550                      555                      560  
 Leu Glu His Ala Leu Gly Glu Leu Ile Asn Phe Lys Lys Val Ile  
                          565                      570                      575  
  
 <210> 549  
 <211> 541  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 549  
 Gly Arg Asn Leu Lys Ala Glu Val Ile Arg Ile Arg Gly Asn Glu Val  
   1                      5                      10                      15  
 Asp Ala Gln Val Phe Glu Leu Thr Lys Gly Ile Ser Val Gly Asp Leu  
                          20                      25                      30  
 Val Glu Phe Thr Asp Lys Leu Leu Thr Val Glu Leu Gly Pro Gly Leu  
                          35                      40                      45  
 Leu Thr Gln Val Tyr Asp Gly Leu Gln Asn Pro Leu Pro Glu Leu Ala  
                          50                      55                      60  
 Ile Gln Cys Gly Phe Phe Leu Glu Arg Gly Val Tyr Leu Arg Pro Leu  
                          65                      70                      75                      80  
 Asn Lys Asp Lys Lys Trp Asn Phe Lys Lys Thr Ser Lys Val Gly Asp  
                          85                      90                      95  
 Ile Val Ile Ala Gly Asp Phe Leu Gly Phe Val Ile Glu Gly Thr Val  
                          100                      105                      110  
 His His Gln Ile Met Ile Pro Phe Tyr Lys Arg Asp Ser Tyr Lys Ile  
                          115                      120                      125  
 Val Glu Ile Val Ser Asp Gly Asp Tyr Ser Ile Asp Glu Gln Ile Ala  
                          130                      135                      140  
 Val Ile Glu Asp Asp Ser Gly Met Arg His Asn Ile Thr Met Ser Phe  
                          145                      150                      155                      160  
 His Trp Pro Val Lys Val Pro Ile Thr Asn Tyr Lys Glu Arg Leu Ile  
                          165                      170                      175  
 Pro Ser Glu Pro Met Leu Thr Gln Thr Arg Ile Ile Asp Thr Phe Phe  
                          180                      185                      190

Pro Val Ala Lys Gly Gly Thr Phe Cys Ile Pro Gly Pro Phe Gly Ala  
 195 200 205  
 Gly Lys Thr Val Leu Gln Gln Val Thr Ser Arg Asn Ala Asp Val Asp  
 210 215 220  
 Val Val Ile Ile Ala Ala Cys Gly Glu Arg Ala Gly Glu Val Val Glu  
 225 230 235 240  
 Thr Leu Lys Glu Phe Pro Glu Leu Met Asp Pro Lys Thr Gly Lys Ser  
 245 250 255  
 Leu Met Asp Arg Thr Cys Ile Ile Cys Asn Thr Ser Ser Met Pro Val  
 260 265 270  
 Ala Ala Arg Glu Ala Ser Val Tyr Thr Ala Ile Thr Ile Gly Glu Tyr  
 275 280 285  
 Tyr Arg Gln Met Gly Leu Asp Ile Leu Leu Leu Ala Asp Ser Thr Ser  
 290 295 300  
 Arg Trp Ala Gln Ala Met Arg Glu Met Ser Gly Arg Leu Glu Glu Ile  
 305 310 315 320  
 Pro Gly Glu Glu Ala Phe Pro Ala Tyr Leu Glu Ser Val Ile Ala Ser  
 325 330 335  
 Phe Tyr Glu Arg Ala Gly Ile Val Val Leu Asn Asn Gly Asp Ile Gly  
 340 345 350  
 Ser Val Thr Val Gly Gly Ser Val Ser Pro Ala Gly Gly Asn Phe Glu  
 355 360 365  
 Glu Pro Val Thr Gln Ala Thr Leu Lys Val Val Gly Ala Phe His Gly  
 370 375 380  
 Leu Thr Arg Glu Arg Ser Asp Ala Arg Lys Phe Pro Ala Ile Ser Pro  
 385 390 395 400  
 Leu Glu Ser Trp Ser Lys Tyr Lys Gly Val Ile Asp Gln Lys Lys Thr  
 405 410 415  
 Glu Tyr Ala Arg Ser Phe Leu Val Lys Gly Asn Glu Ile Asn Gln Met  
 420 425 430  
 Met Lys Val Val Gly Glu Glu Gly Ile Ser Asn Asp Asp Phe Leu Ile  
 435 440 445  
 Tyr Leu Lys Ser Glu Leu Leu Asp Ser Cys Tyr Leu Gln Gln Asn Ser  
 450 455 460  
 Phe Asp Ser Ile Asp Ala Ala Val Ser Ser Glu Arg Gln Asn Tyr Met  
 465 470 475 480  
 Phe Asp Ile Val Tyr Asn Ile Leu Lys Thr Asn Phe Glu Phe Ser Asp  
 485 490 495

Lys Leu Gln Ala Arg Asp Phe Ile Asn Glu Leu Arg Gln Asn Leu Leu  
500 505 510

Asp Met Asn Leu Ser Ser Phe Lys Asp His Lys Phe Asn Lys Leu Glu  
515 520 525

His Ala Leu Gly Glu Leu Ile Asn Phe Lys Lys Val Ile  
530 535 540

<210> 550

<211> 1728

<212> DNA

<213> Homo sapiens

<400> 550

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gaagtaattc gtattagggg caatgaagtt gatgcacagg tttttgaatt gacaaaaggg 180
atatctgttg gagacctagt tgaattttaca gacaaacttt taacagttga actcggacca 240
gggcttttaa ctcaagtata tgatgggctt caaaatcctt tgcctgaatt ggctattcaa 300
tgtggatttt ttttagaaaag gggagtatat ttaaggccct tgaataaaga taaaaagtgg 360
aattttaaaa aaacctccaa agttggagat atcgttattg caggagattt tttaggtttt 420
gtaattgagg gaactgttca ccatcaaata atgattccat tttataaaaag ggattccttat 480
aaaattgtgg agattgttaag tgatggcgac tattcgattg atgagcaaat tgctgtaatt 540
gaagatgatt ctggtatgag gcataatatt acaatgtctt ttcatctggc tgtaaagtt 600
cctattacta attataagga acgccttatt cctagtgaac ctatgttgac tcaaactaga 660
attatagata catttttccc agttgccaaa ggtggaactt tttgcattcc gggtcctttt 720
ggagcaggaa aaacggttct tcagcagggtt acaagtcgaa atgctgatgt tgatgtagtg 780
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gagtattaca ggcaaatggg ccttgatatt cttcttttgg cagattcaac ttcaagatgg 1020
gctcaagcaa tgagagaaat gtctggacgc cttgaggaaa ttcctggcga ggaggctttt 1080
ccggcatatc ttgagtctgt tattgcttcc ttttatgaaa gggcagggtat tgtagttcct 1140
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tctattgatg ctgctgttag ttcagagcgt caaaattata tgtttgatat agttttataac 1560
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ttaaggcaaa atctttttaga catgaatctt tcttctttta aggatcataa gtttaataaa 1680
ttggagcatg ctttgggtga attgataaat tttaaaaagg taatttag 1728

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<210> 551

<211> 1626

<212> DNA

<213> Homo sapiens

<400> 551

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tttgaattga caaaagggat atctgttgga gacctagttg aatttacaga caaactttta 120
acagttgaac tcggaccagg gcttttaact caagtatatg atgggcttca aaatcctttg 180
cctgaattgg ctattcaatg tggatttttt ttagaaaagg gagtatattt aaggcccttg 240
aataaagata aaaagtggaa ttttaaaaaa acctccaaag ttggagatat cgttattgca 300
ggagattttt taggttttgt aattgaggga actgttcacc atcaaataat gattccattt 360
tataaaaggg attcttataa aattgtggag attgtaagtg atggcgacta ttcgattgat 420

```

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gagcaaattg ctgtaattga agatgattct ggtatgaggc ataatattac aatgtctttt 480
cattggcctg ttaaagttcc tattactaat tataaggaac gccttattcc tagtgaacct 540
atgttgactc aaactagaat tatagataca tttttcccag ttgccaaagg tggaactttt 600
tgcattccgg gtccttttgg agcaggaaaa acggttcttc agcagggttac aagtcgaaat 660
gctgatgttg atgtagtgat tattgcagct tgtggtgagc gagcaggaga agtggtagaa 720
actcttaaag aatttcccga attaatggat ccaaaaaccg gcaaattctt aatggacagg 780
acttgatta tttgtaatac atottcaatg ccagttgcag ctagagaagc ttctgtttat 840
actgctatta ctattggtga gtattacagg caaatgggcc ttgatattct tcttttggca 900
gattcaactt caagatgggc tcaagcaatg agagaaatgt ctggacgcct tgaggaaatt 960
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cttgaatctt ggagtaaata taaaggcggt attgatcaaa aaaagactga atatgcaaga 1260
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cagcaaaatt catttgattc tattgatgct gctgttagtt cagagcgtca aaattatatg 1440
tttgatatag ttataacat tcttaaaact aactttgagt tttctgataa acttcaagca 1500
agagatttta taaatgagtt aaggcaaaat cttttagaca tgaatctttc ttcttttaag 1560
gatcataagt ttaataaatt ggagcatgct ttgggtgaat tgataaattt taaaaaggta 1620
atntag                                           1626

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<210> 552

<211> 434

<212> PRT

<213> Homo sapiens

<400> 552

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Met Lys Arg Val Tyr Ser Lys Ile Glu Ser Ile Ala Gly Asn Val Ile
  1             5             10             15

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Thr Val Thr Ala Gln Gly Ile Lys Tyr Gly Glu Leu Ala Ile Val Lys
          20             25             30

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Ala Lys Asp Thr Ser Ser Leu Ala Glu Val Ile Lys Leu Asp Arg Glu
          35             40             45

```

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Lys Val Ser Leu Gln Val Tyr Gly Gly Thr Arg Gly Val Ser Thr Ser
          50             55             60

```

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Asp Glu Ile Lys Phe Leu Gly His Ser Met Gln Val Ser Phe Ser Asp
          65             70             75             80

```

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Asn Leu Leu Gly Arg Ile Phe Asp Gly Ser Gly Asn Pro Arg Asp Gly
          85             90             95

```

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Gly Pro Ser Leu Asp Asp Asn Leu Ile Glu Ile Gly Gly Pro Ser Ala
          100            105            110

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Asn Pro Thr Lys Arg Ile Val Pro Arg Asn Met Ile Arg Thr Gly Leu
          115            120            125

```

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Pro Met Ile Asp Val Phe Asn Thr Leu Val Glu Ser Gln Lys Leu Pro
          130            135            140

```

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Ile Phe Ser Val Ser Gly Glu Pro Tyr Asn Glu Leu Leu Ile Arg Ile
          145            150            155            160

```

Ala Leu Gln Ala Glu Val Asp Leu Ile Ile Leu Gly Gly Met Gly Leu  
 165 170 175  
 Lys His Asp Asp Tyr Leu Thr Phe Lys Asp Ser Leu Glu Lys Gly Gly  
 180 185 190  
 Ala Leu Ser Arg Ala Ile Phe Phe Val His Thr Ala Asn Asp Ser Val  
 195 200 205  
 Val Glu Ser Leu Thr Val Pro Asp Ile Ser Leu Ser Val Ala Glu Lys  
 210 215 220  
 Phe Ala Leu Lys Gly Lys Lys Val Leu Val Leu Leu Thr Asp Met Thr  
 225 230 235 240  
 Asn Phe Ala Asp Ala Met Lys Glu Ile Ser Ile Thr Met Glu Gln Val  
 245 250 255  
 Pro Ser Asn Arg Gly Tyr Pro Gly Asp Leu Tyr Ser Gln Leu Ala Tyr  
 260 265 270  
 Arg Tyr Glu Lys Ala Ile Asp Phe Glu Gly Ala Gly Ser Ile Thr Ile  
 275 280 285  
 Leu Ala Val Thr Thr Met Pro Gly Asp Asp Val Thr His Pro Val Pro  
 290 295 300  
 Asp Asn Thr Gly Tyr Ile Thr Glu Gly Gln Tyr Tyr Leu Lys Gly Gly  
 305 310 315 320  
 Arg Ile Glu Pro Phe Gly Ser Leu Ser Arg Leu Lys Gln Met Val Asn  
 325 330 335  
 Ser Arg Thr Arg Asp Asp His Arg Thr Ile Met Asp Ser Met Ile Lys  
 340 345 350  
 Leu Tyr Ala Ser Ser Lys Glu Ser Val Glu Lys Lys Ala Met Gly Phe  
 355 360 365  
 Asn Met Thr Lys Trp Asp Glu Lys Leu Leu Lys Tyr Ser Asn Met Phe  
 370 375 380  
 Glu Ser Lys Met Met Asp Leu Ser Val Asn Ile Pro Leu Glu Glu Ala  
 385 390 395 400  
 Leu Asp Leu Gly Trp Ser Ile Leu Ala Ser Cys Phe Ser Pro Lys Glu  
 405 410 415  
 Thr Gly Ile Lys Thr Asp Leu Ile Glu Lys Tyr Trp Pro Lys Lys Glu  
 420 425 430  
 Thr Tyr

&lt;210&gt; 553

&lt;211&gt; 414

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens



&lt;400&gt; 553

Gln Gly Ile Lys Tyr Gly Glu Leu Ala Ile Val Lys Ala Lys Asp Thr  
 1 5 10 15  
 Ser Ser Leu Ala Glu Val Ile Lys Leu Asp Arg Glu Lys Val Ser Leu  
 20 25 30  
 Gln Val Tyr Gly Gly Thr Arg Gly Val Ser Thr Ser Asp Glu Ile Lys  
 35 40 45  
 Phe Leu Gly His Ser Met Gln Val Ser Phe Ser Asp Asn Leu Leu Gly  
 50 55 60  
 Arg Ile Phe Asp Gly Ser Gly Asn Pro Arg Asp Gly Gly Pro Ser Leu  
 65 70 75 80  
 Asp Asp Asn Leu Ile Glu Ile Gly Gly Pro Ser Ala Asn Pro Thr Lys  
 85 90 95  
 Arg Ile Val Pro Arg Asn Met Ile Arg Thr Gly Leu Pro Met Ile Asp  
 100 105 110  
 Val Phe Asn Thr Leu Val Glu Ser Gln Lys Leu Pro Ile Phe Ser Val  
 115 120 125  
 Ser Gly Glu Pro Tyr Asn Glu Leu Leu Ile Arg Ile Ala Leu Gln Ala  
 130 135 140  
 Glu Val Asp Leu Ile Ile Leu Gly Gly Met Gly Leu Lys His Asp Asp  
 145 150 155 160  
 Tyr Leu Thr Phe Lys Asp Ser Leu Glu Lys Gly Gly Ala Leu Ser Arg  
 165 170 175  
 Ala Ile Phe Phe Val His Thr Ala Asn Asp Ser Val Val Glu Ser Leu  
 180 185 190  
 Thr Val Pro Asp Ile Ser Leu Ser Val Ala Glu Lys Phe Ala Leu Lys  
 195 200 205  
 Gly Lys Lys Val Leu Val Leu Leu Thr Asp Met Thr Asn Phe Ala Asp  
 210 215 220  
 Ala Met Lys Glu Ile Ser Ile Thr Met Glu Gln Val Pro Ser Asn Arg  
 225 230 235 240  
 Gly Tyr Pro Gly Asp Leu Tyr Ser Gln Leu Ala Tyr Arg Tyr Glu Lys  
 245 250 255  
 Ala Ile Asp Phe Glu Gly Ala Gly Ser Ile Thr Ile Leu Ala Val Thr  
 260 265 270  
 Thr Met Pro Gly Asp Asp Val Thr His Pro Val Pro Asp Asn Thr Gly  
 275 280 285  
 Tyr Ile Thr Glu Gly Gln Tyr Tyr Leu Lys Gly Gly Arg Ile Glu Pro  
 290 295 300

Phe Gly Ser Leu Ser Arg Leu Lys Gln Met Val Asn Ser Arg Thr Arg  
305 310 315 320

Asp Asp His Arg Thr Ile Met Asp Ser Met Ile Lys Leu Tyr Ala Ser  
325 330 335

Ser Lys Glu Ser Val Glu Lys Lys Ala Met Gly Phe Asn Met Thr Lys  
340 345 350

Trp Asp Glu Lys Leu Leu Lys Tyr Ser Asn Met Phe Glu Ser Lys Met  
355 360 365

Met Asp Leu Ser Val Asn Ile Pro Leu Glu Glu Ala Leu Asp Leu Gly  
370 375 380

Trp Ser Ile Leu Ala Ser Cys Phe Ser Pro Lys Glu Thr Gly Ile Lys  
385 390 395 400

Thr Asp Leu Ile Glu Lys Tyr Trp Pro Lys Lys Glu Thr Tyr  
405 410

<210> 554

<211> 1305

<212> DNA

<213> Homo sapiens

<400> 554

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gaagtaatta aacttgatcg agaaaaagtt tctcttcagg tttatggtgg tacaagaggt 180
gtttccacgt cagacgagat aaagttttta gggcattcaa tgcaggtttc attttctgac 240
aatttggtgg gcagaatttt tgatggttct ggggaatccta gagatggggg cccttctctt 300
gatgataatt tgattgaaat tgggtgggct tctgcaaatc ctacaaaacg cattgttctt 360
agaaatatga taaggacagg gcttccaatg atagatgttt ttaatactct tgttgaatct 420
caaaaattgc caattttttc tgtttctggt gagccttata atgagcttct tataagaatt 480
gcacttcaag cagaagttga ttttaataatt cttggcggaa tgggacttaa gcatgatgat 540
tatttaactt ttaaagattc tttagaaaag ggaggtgctt taagtagagc aatttttttt 600
gttcatactg ctaatgattc tgttggtgaa tctttaactg ttcctgatat ttcactttct 660
gttgctgaaa agtttgctct aaagggcaaa aaagttttgg tgcttctcac agacatgaca 720
aattttgctg atgcaatgaa agaaatatct attacaatgg aacaagtgcc ttctaataka 780
ggttatcccc gggatttgta ttctcagctt gcatatcggt atgagaaggc tattgacttt 840
gaaggcgcag gatcaattac aatacttgca gttacaacaa tgccgggtga cgatgttact 900
catcctgttc ctgacaatac tggatacatt acagaaggtc aatactattt aaaagggtggc 960
agaatagagc cttttgggtc tctttcaaga ctttaagcaaa tggtaaatag tagaactaga 1020
gacgatcaca ggactataat ggattcaatg atcaagcttt atgcatcttc aaaagagtct 1080
gtagaaaaaa aggctatggg atttaatatg actaagtggg atgaaaaatt gctcaagtat 1140
agcaatatgt ttgaaagtaa gatgatggat ttgtctgtta atattccttt agaagaggct 1200
ttagatttag gttggagcat tcttgctagt tgttttagcc caaaagaaac gggaataaaa 1260
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<210> 555

<211> 1245

<212> DNA

<213> Homo sapiens

<400> 555

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caaggtatta agtatggtga gcttgctatt gtaaaagcaa aagatacaag ttctctagcc 60

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gaagtaatta aacttgatcg agaaaaagtt tctcttcagg tttatggtgg tacaagaggt 120
gtttccacgt cagacgagat aaagttttta gggcattcaa tgcagggttc attttctgac 180
aatttggtgg gcagaatttt tgatggttct ggggaatccta gagatggggg cccttctctt 240
gatgataatt tgattgaaat tgggtgggcct tctgcaaadc ctacaaaacg cattgttcct 300
agaaatatga taaggacagg gcttccaatg atagatgttt ttaatactct tgttgaatct 360
caaaaattgc caattttttc tgtttctggt gagccttata atgagcttct tataagaatt 420
gcacttcaag cagaagttga ttttaataatt cttggcggaa tgggacttaa gcatgatgat 480
tatttaactt ttaaagattc tttagaaaag ggaggtgctt taagtagagc aatttttttt 540
gttcatactg ctaatgattc tgttggtgaa tctttaactg ttcttgatat ttcactttct 600
gttgctgaaa agtttgctct aaagggcaaa aaagttttgg tgcttctcac agacatgaca 660
aattttgctg atgcaatgaa agaaatatct attacaatgg aacaagtgcc ttctaataga 720
ggttatcccg gggatttgta ttctcagctt gcatatcggt atgagaaggc tattgacttt 780
gaaggcgag gatcaattac aatacttgca gttacaacaa tgccgggtga cgatgttact 840
catcctgttc ctgacaatac tggatacatt acagaaggct aatactattt aaaaggtggc 900
agaatagagc cttttgggtc tctttcaaga ctttaagcaaa tggtaaatag tagaactaga 960
gacgatcaca ggactataat ggattcaatg atcaagcttt atgcatcttc aaaagagtct 1020
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<210> 556

<211> 324

<212> PRT

<213> Homo sapiens

<400> 556

Met Arg Ser Ala Val Leu Phe Phe Phe Ala Leu Pro Phe Ser Ile Ser  
1 5 10 15

Leu Tyr Ser Ser Ser Asn Lys Asn Phe Pro Tyr Trp Ile Leu Leu Glu  
20 25 30

Lys Gly Arg Gln Phe Leu Tyr Ser Lys Ser Glu Phe Ser Lys Ser Asn  
35 40 45

Leu Thr His Ala Ile Asn Tyr Leu Gln Glu Ala Leu Leu Arg Lys Gly  
50 55 60

Val Tyr Pro Glu Ala Ser Tyr Tyr Leu Ser Val Ala Tyr Gly Met Ser  
65 70 75 80

Gly Asn Ala Ile Leu Glu Lys Leu Asn Leu Tyr Lys Ser Phe Glu Asp  
85 90 95

Arg Tyr Tyr Leu Leu Asp Glu Ser Phe Glu Lys Lys Ile Leu Phe Ser  
100 105 110

Leu Ala Lys Met Ala Glu Leu Glu Asn Asn Tyr Val Asp Thr Ile Asp  
115 120 125

Tyr Leu Asn Asp Ile Leu Asn Lys Phe Ser Thr Lys Lys Asp Tyr Tyr  
130 135 140

Ser Tyr His Asp Tyr Ser Gln Gly Glu Asn Ser Met Ser Asn Asn Glu  
145 150 155 160

Leu Asn Ala Ser Phe Tyr Leu Thr Ser Tyr Leu Lys Gln Val Arg Gly

	165		170		175
Ala Phe Gly Ile Asp Phe Thr Phe Asn Leu Tyr Arg Phe Lys Asn Tyr	180		185		190
Asn Val Ile Asp Thr His Gln Leu Leu Ser Lys Val Tyr Leu His Leu	195		200		205
Lys Ala Tyr Glu Leu Ser Ile Thr His Gly Leu Ile Ala Ala Val Gly	210		215		220
Ile Leu Thr Arg Met Tyr Asp Tyr Val Cys Tyr Tyr Glu Pro Val Tyr	225		230		235
Gln Phe Lys Asn Leu Arg Ser Phe Val Gln Lys Ile Asn Lys Tyr Lys	245		250		255
Ala Ile Lys Asn Ala Phe Glu Ser Thr Asp Phe Trp Glu Ile Val Tyr	260		265		270
Asn Val Ala Ala Ala Thr Tyr Ala Tyr Ser Asn Gly Asn Tyr Lys Phe	275		280		285
Arg Ala Ile Asp Thr Trp Lys Leu Val Val Asp Leu Ala Pro Arg Phe	290		295		300
Ser Pro Tyr Ile Ala Lys Ser Arg Ser Gln Ile Lys Asn Ser Val Tyr	305		310		315
					320

Leu Lys Lys Asn

<210> 557

<211> 304

<212> PRT

<213> Homo sapiens

<400> 557

Ser Asn Lys Asn Phe Pro Tyr Trp Ile Leu Leu Glu Lys Gly Arg Gln	1	5	10	15
---	---	---	----	----

Phe Leu Tyr Ser Lys Ser Glu Phe Ser Lys Ser Asn Leu Thr His Ala	20	25	30
---	----	----	----

Ile Asn Tyr Leu Gln Glu Ala Leu Leu Arg Lys Gly Val Tyr Pro Glu	35	40	45
---	----	----	----

Ala Ser Tyr Tyr Leu Ser Val Ala Tyr Gly Met Ser Gly Asn Ala Ile	50	55	60
---	----	----	----

Leu Glu Lys Leu Asn Leu Tyr Lys Ser Phe Glu Asp Arg Tyr Tyr Leu	65	70	75	80
---	----	----	----	----

Leu Asp Glu Ser Phe Glu Lys Lys Ile Leu Phe Ser Leu Ala Lys Met	85	90	95
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Ala Glu Leu Glu Asn Asn Tyr Val Asp Thr Ile Asp Tyr Leu Asn Asp	100	105	110
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Ile Leu Asn Lys Phe Ser Thr Lys Lys Asp Tyr Tyr Ser Tyr His Asp  
 115 120 125  
 Tyr Ser Gln Gly Glu Asn Ser Met Ser Asn Asn Glu Leu Asn Ala Ser  
 130 135 140  
 Phe Tyr Leu Thr Ser Tyr Leu Lys Gln Val Arg Gly Ala Phe Gly Ile  
 145 150 155 160  
 Asp Phe Thr Phe Asn Leu Tyr Arg Phe Lys Asn Tyr Asn Val Ile Asp  
 165 170 175  
 Thr His Gln Leu Leu Ser Lys Val Tyr Leu His Leu Lys Ala Tyr Glu  
 180 185 190  
 Leu Ser Ile Thr His Gly Leu Ile Ala Ala Val Gly Ile Leu Thr Arg  
 195 200 205  
 Met Tyr Asp Tyr Val Cys Tyr Tyr Glu Pro Val Tyr Gln Phe Lys Asn  
 210 215 220  
 Leu Arg Ser Phe Val Gln Lys Ile Asn Lys Tyr Lys Ala Ile Lys Asn  
 225 230 235 240  
 Ala Phe Glu Ser Thr Asp Phe Trp Glu Ile Val Tyr Asn Val Ala Ala  
 245 250 255  
 Ala Thr Tyr Ala Tyr Ser Asn Gly Asn Tyr Lys Phe Arg Ala Ile Asp  
 260 265 270  
 Thr Trp Lys Leu Val Val Asp Leu Ala Pro Arg Phe Ser Pro Tyr Ile  
 275 280 285  
 Ala Lys Ser Arg Ser Gln Ile Lys Asn Ser Val Tyr Leu Lys Lys Asn  
 290 295 300

&lt;210&gt; 558

&lt;211&gt; 975

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 558

atgagaagtg cggtttttatt ttttttttgc tttgccttttt ctattttcttt gtattcttca 60  
 agtaataaaa attttccgta ttggatttta cttgaaaaag gcaggcaatt tctttattct 120  
 aaatctgaat ttagtaagtc taatcttaca catgctatta attatttgca ggaagctttg 180  
 cttagaaaag gcgtttatcc tgaggctagt tattatttgt cagtagctta tggtagtct 240  
 ggcaatgcta ttcttgaaaa attaaacctt tataagtctt ttgaagacag atattatttg 300  
 ctagatgaat cttttgaaaa aaaaataact ttttctttag ctaaaatggc tgaacttgag 360  
 aataattatg ttgatactat tgattatttg aatgacatat taaataagtt ttcaactaaa 420  
 aaagattatt atagttatca tgattattct caaggcgaaa acagtatgtc aaataatgaa 480  
 cttaatgctt cattttattt aacttcttat ttaaaacaag taagaggagc ttttggtatt 540  
 gatttttactt ttaatcttta cagatttaaa aactacaatg ttattgatac tcatcaatta 600  
 ttgtcaaaag tttatttgca cttaaaagct tatgagcttt caattactca tggacttata 660  
 gctgcagtag gaattttaac aagaatgtat gattatgttt gttattatga acctgtgtat 720

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cagtttaaaaa atttaaggct ttttggtcaa aaaattaata agtataaggc aataaaaaaat 780
gcttttgaat ctacagattt ttgggaaata gtttataatg ttgctgctgc tacttatgca 840
tattctaata gcaattataa atttagagca atagatactt ggaaattagt agtagatctt 900
gcgccaaggt tttctcctta tattgctaaa tcaagaagtc aaattaaaaa ttctgtatat 960
ttaaaaaaaaa attaa 975

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<210> 559
<211> 915
<212> DNA
<213> Homo sapiens

```

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<400> 559
agtaataaaaa attttccgta ttggatttta cttgaaaaag gcaggcaatt tctttattct 60
aaatctgaat ttagtaagtc taatcttaca catgctatta attatttgca ggaagctttg 120
cttagaaaag gcgtttatcc tgaggctagt tattatttgt cagtagctta tggtagtctt 180
ggcaatgcta ttcttgaaaa attaaacctt tataagtctt ttgaagacag atattatttg 240
ctagatgaat cttttgaaaa aaaaataactt ttttcttttag ctaaaatggc tgaacttgag 300
aataattatg ttgatactat tgattatttg aatgacatat taaataagtt ttcaactaaa 360
aaagattatt atagttatca tgattattct caaggcgaaa acagtatgtc aaataatgaa 420
cttaattgctt cattttattt aacttcttat ttaaaacaag taagaggagc ttttggtatt 480
gatttttactt ttaatcttta cagattttaa aactacaatg ttattgatac tcatcaatta 540
ttgtcaaaaag tttatttgca cttaaaagct tatgagcttt caattactca tggacttata 600
gctgcagtag gaattttaac aagaatgtat gattatgttt gttattatga acctgtgtat 660
cagtttaaaaa atttaaggct ttttggtcaa aaaattaata agtataaggc aataaaaaaat 720
gcttttgaat ctacagattt ttgggaaata gtttataatg ttgctgctgc tacttatgca 780
tattctaata gcaattataa atttagagca atagatactt ggaaattagt agtagatctt 840
gcgccaaggt tttctcctta tattgctaaa tcaagaagtc aaattaaaaa ttctgtatat 900
ttaaaaaaaaa attaa 915

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<210> 560
<211> 316
<212> PRT
<213> Homo sapiens

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<220>
<221> SITE
<222> (179)
<223> Xaa equals any of the naturally occurring L-amino acids

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<400> 560
Met Leu Lys Ser Asn Lys Val Val Leu Ile Gly Ala Gly Gly Val Gly
 1             5             10             15

Ser Ser Phe Ala Tyr Ala Leu Thr Ile Asp Asn Ser Leu Val His Glu
      20             25             30

Leu Val Ile Ile Asp Val Asn Glu Asn Lys Ala Lys Gly Glu Val Met
      35             40             45

Asp Leu Asn His Gly Gln Met Phe Leu Lys Lys Asn Ile Asn Val Leu
      50             55             60

Phe Gly Thr Tyr Lys Asp Cys Ala Asn Ala Asp Ile Val Val Ile Thr
      65             70             75             80

Ala Gly Leu Asn Gln Lys Pro Gly Glu Thr Arg Leu Asp Leu Val Asp
      85             90             95

```

Lys Asn Ser Lys Ile Phe Lys Asp Ile Ile Thr Asn Val Val Ser Ser  
 100 105 110

Gly Phe Asp Gly Ile Phe Val Val Ala Ser Asn Pro Val Asp Ile Met  
 115 120 125

Thr Tyr Val Thr Met Lys Tyr Ser Lys Phe Pro Ile His Lys Val Ile  
 130 135 140

Gly Thr Gly Thr Ile Leu Asp Thr Ser Arg Leu Arg Tyr Phe Leu Ser  
 145 150 155 160

Asp His Phe Asn Val Asn Thr Gln Asn Ile His Ser Tyr Ile Met Gly  
 165 170 175

Glu His Xaa Asp Ser Ser Phe Ala Thr Trp Asp Glu Thr Lys Ile Ala  
 180 185 190

Met Lys Pro Leu Ser Glu Tyr Leu Ala Glu Gly Lys Ile Thr Glu Leu  
 195 200 205

Glu Leu Asp Glu Ile His Lys Lys Val Val Asn Ala Ala Tyr Glu Val  
 210 215 220

Ile Lys Leu Lys Gly Ala Thr Tyr Tyr Ala Ile Gly Leu Gly Ile Lys  
 225 230 235 240

Asn Ile Val Asn Ala Ile Ile Gly Asp Gln Asn Val Ile Leu Pro Ile  
 245 250 255

Ser Ser Tyr Ile Asn Gly Gln Tyr Gly Gly Leu Ile Lys Asp Ile Tyr  
 260 265 270

Ile Gly Ala Pro Ala Ile Val Cys Lys Glu Gly Val Lys Glu Val Leu  
 275 280 285

Asn Phe Lys Ile Ser Pro Lys Glu Leu Asp Lys Phe Asn Ser Ser Ala  
 290 295 300

Asn Gln Leu Lys Ser Tyr Ile Asp Lys Met Glu Phe  
 305 310 315

<210> 561

<211> 295

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (158)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 561

Ala Leu Thr Ile Asp Asn Ser Leu Val His Glu Leu Val Ile Ile Asp  
 1 5 10 15

Val Asn Glu Asn Lys Ala Lys Gly Glu Val Met Asp Leu Asn His Gly  
 20 25 30

Gln Met Phe Leu Lys Lys Asn Ile Asn Val Leu Phe Gly Thr Tyr Lys  
 35 40 45  
 Asp Cys Ala Asn Ala Asp Ile Val Val Ile Thr Ala Gly Leu Asn Gln  
 50 55 60  
 Lys Pro Gly Glu Thr Arg Leu Asp Leu Val Asp Lys Asn Ser Lys Ile  
 65 70 75 80  
 Phe Lys Asp Ile Ile Thr Asn Val Val Ser Ser Gly Phe Asp Gly Ile  
 85 90 95  
 Phe Val Val Ala Ser Asn Pro Val Asp Ile Met Thr Tyr Val Thr Met  
 100 105 110  
 Lys Tyr Ser Lys Phe Pro Ile His Lys Val Ile Gly Thr Gly Thr Ile  
 115 120 125  
 Leu Asp Thr Ser Arg Leu Arg Tyr Phe Leu Ser Asp His Phe Asn Val  
 130 135 140  
 Asn Thr Gln Asn Ile His Ser Tyr Ile Met Gly Glu His Xaa Asp Ser  
 145 150 155 160  
 Ser Phe Ala Thr Trp Asp Glu Thr Lys Ile Ala Met Lys Pro Leu Ser  
 165 170 175  
 Glu Tyr Leu Ala Glu Gly Lys Ile Thr Glu Leu Glu Leu Asp Glu Ile  
 180 185 190  
 His Lys Lys Val Val Asn Ala Ala Tyr Glu Val Ile Lys Leu Lys Gly  
 195 200 205  
 Ala Thr Tyr Tyr Ala Ile Gly Leu Gly Ile Lys Asn Ile Val Asn Ala  
 210 215 220  
 Ile Ile Gly Asp Gln Asn Val Ile Leu Pro Ile Ser Ser Tyr Ile Asn  
 225 230 235 240  
 Gly Gln Tyr Gly Gly Leu Ile Lys Asp Ile Tyr Ile Gly Ala Pro Ala  
 245 250 255  
 Ile Val Cys Lys Glu Gly Val Lys Glu Val Leu Asn Phe Lys Ile Ser  
 260 265 270  
 Pro Lys Glu Leu Asp Lys Phe Asn Ser Ser Ala Asn Gln Leu Lys Ser  
 275 280 285  
 Tyr Ile Asp Lys Met Glu Phe  
 290 295

&lt;210&gt; 562

&lt;211&gt; 950

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 562



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atgccttaagt ctaataaaagt tgttcttatt ggagctgggtg ggggttggttc aagctttgcg 60
tatgcttttaa caatagacaa ttcacttgta catgaacttg taattattga tgtaaatgaa 120
aataaaagcaa aaggggaggt catggacctt aatcatggcc aaatgttttt aaagaagaat 180
attaatgtat tgtttgggac ttacaaagat tgtgctaatag cagatattgt tgtaattaca 240
gcaggactta atcaaaaagcc tggtagagaca agacttgatt tggttgataa aaattcctaaa 300
atttttaaaag atattataac taatgttgta tctagcgggt ttgatgggtat ttttggtggt 360
gcaagcaatc ctgtagacat tatgacttat gttacaatga aatattccaa atttcctatt 420
cataagggtta ttggtactgg gactattcct gatacttcaa gacttagata ttttttaagt 480
gatcattttta atgtgaacac tcaaaatata cattcatata ttatgggtga gcacgtgaca 540
gttcttttgc tacgtgggat gaaacaaaaa tagcaatgaa gcctttgtca gaatatcttg 600
ctgaaggcaa aataactgag ttggagcttg atgaaattca taaaaagggt gtgaatgctg 660
cttatgaagt tattaagtta aagggggcaa cctattatgc tattggactt ggtattaaga 720
atattgtaaa tgcaataatt ggagatcaga atgttattct gccaatatct tcttatatta 780
atggccagta tgggggattg attaaagata tttatattgg agcgctgct atagtttgta 840
aggaaggagt caaagaagtt ttaacttta agataagccc taaagagctt gataagttta 900
atagttctgc taatcagctt aaaagctata ttgataaaat ggaatttttag 950

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&lt;210&gt; 563

&lt;211&gt; 887

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 563

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gctttaacaa tagacaattc acttgtagat gaacttgtaa ttattgatgt taatgaaaat 60
aaagcaaaaag gggaggtcat ggaccttaat catggccaaa tgttttttaa gaagaatatt 120
aatgtattgt ttgggactta caaagattgt gctaattgcag atattggtgt aattacagca 180
ggacttaatc aaaagcctgg tgagacaaga cttgatttgg ttgataaaaa ttctaaaatt 240
tttaaaagata ttataactaa tgttgtagct agcgggtttg atgggtatttt tgttggtgca 300
agcaatcctg tagacattat gacttatggt acaatgaaat attccaaatt tcctattcat 360
aagggtattg gtactgggac tattcttgat acttcaagac ttagatatatt ttttaagtga 420
cattttaatg tgaacactca aaatatacat tcatatatta tgggtgagca cgtgacagtt 480
cttttgctac gtgggatgaa acaaaaatag caatgaagcc tttgtcagaa tatcttgctg 540
aaggcaaaaat aactgagttg gagcttgatg aaattcataa aaagggttggt aatgctgctt 600
atgaagttat taagttaaag ggggcaacct attatgctat tggacttggt attaagaata 660
ttgtaaatgc aataattgga gatcagaatg ttattctgcc aatatcttct tatattaatg 720
gccagtatgg gggattgatt aaagatatatt atattggagc gcctgctata gtttgtaagg 780
aaggagtcāa agaagtttta aactttaaga taagccttaa agagcttgat aagtttaata 840
gttctgctaa tcagcttaaa agctatattg ataaaatgga atttttag 887

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&lt;210&gt; 564

&lt;211&gt; 342

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 564

```

Met Lys Lys Lys Gln Leu Ile Leu Leu Leu Phe Met Pro Gln Ile Ile
  1             5             10             15

```

```

Tyr Ala Lys Ser Tyr Phe Ala Ser Asp Val Phe Phe Asn Lys Tyr Gln
      20             25             30

```

```

Lys Leu Asn Glu Lys Pro Lys Thr Gly Phe Tyr Ile Glu Tyr Tyr Ser
  35             40             45

```

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Val Asp Asp Thr Glu Lys Leu Tyr Leu Tyr Lys Glu Asn Asn Leu Ile
  50             55             60

```

```

Lys Tyr Lys Thr Ile Gln Ile Ile Glu Asn Thr Lys Lys Ile Thr Cys

```

65	70	75	80
Tyr Asp Thr Lys Asp	Thr Lys Arg Lys	Glu Glu Ile Tyr Asp	Asn Leu
85		90	95
Asn Asn Lys Ile Gln Glu	Ile Glu Tyr Asp Ser	Lys Gly Lys Thr	Leu
100	105	110	
Glu Thr Ala Asn Tyr Val Tyr	Glu Asn Glu Asn Leu	Ile Ser Lys Asn	
115	120	125	
Leu Lys Thr Ile Asn Gln Lys	Pro Lys Leu Ile Tyr Tyr	Ser Lys Asp	
130	135	140	
Asp Asn Gly Lys Leu Leu Lys	Ile Thr Gly Ser Asn Phe	Gln Ile Trp	
145	150	155	160
Asn Tyr Gly Ile Asn Gly Asp	Ile Lys Ser Thr Tyr Phe	Asp Ile Lys	
165	170	175	
Lys Ala Thr Thr Lys Val Ile	Lys Tyr Asp Asp Lys Lys	Arg Asn Ser	
180	185	190	
Asn Ser Thr Ile Ile Val Asn	Asn Lys Ile Lys Ser Lys	Glu Lys Asn	
195	200	205	
Gln Tyr Leu Asp Glu Glu Lys	Ile Val Asn Thr Phe Glu	Glu Glu Asn	
210	215	220	
Thr Lys Ile Ile Ser Thr Tyr	Lys Ala Asn Asn Leu Ile	Lys Glu Glu	
225	230	235	240
Thr Tyr Lys Asn Asn Glu Leu	Ile Lys Val Asn Asp Phe	Gln Tyr Asn	
245	250	255	
Glu Ser Asp Met Ile Ile Phe	Gln Asn Thr Lys Glu Lys	Asp Lys Asp	
260	265	270	
Gln Tyr Thr Asn Thr Lys Ile	Glu Tyr Glu Tyr Asn Lys	Asp Asn Gln	
275	280	285	
Leu Lys Ser Lys Lys Ile Tyr	Glu Asn Asp Ile Ile Tyr	Leu Lys Thr	
290	295	300	
Glu Tyr His Asn Asp Asn Glu	Tyr Glu Glu Glu Ile Tyr	Tyr Asn Lys	
305	310	315	320
Lys Pro Ala Leu Arg Val Lys	His Lys Asn Gly Lys Val	Thr Glu Glu	
325	330	335	
Lys Pro Ile Gly Thr Asn			
340			

&lt;210&gt; 565

&lt;211&gt; 323

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 565

Ser Tyr Phe Ala Ser Asp Val Phe Phe Asn Lys Tyr Gln Lys Leu Asn  
 1 5 10 15

Glu Lys Pro Lys Thr Gly Phe Tyr Ile Glu Tyr Tyr Ser Val Asp Asp  
 20 25 30

Thr Glu Lys Leu Tyr Leu Tyr Lys Glu Asn Asn Leu Ile Lys Tyr Lys  
 35 40 45

Thr Ile Gln Ile Ile Glu Asn Thr Lys Lys Ile Thr Cys Tyr Asp Thr  
 50 55 60

Lys Asp Thr Lys Arg Lys Glu Glu Ile Tyr Asp Asn Leu Asn Asn Lys  
 65 70 75 80

Ile Gln Glu Ile Glu Tyr Asp Ser Lys Gly Lys Thr Leu Glu Thr Ala  
 85 90 95

Asn Tyr Val Tyr Glu Asn Glu Asn Leu Ile Ser Lys Asn Leu Lys Thr  
 100 105 110

Ile Asn Gln Lys Pro Lys Leu Ile Tyr Tyr Ser Lys Asp Asp Asn Gly  
 115 120 125

Lys Leu Leu Lys Ile Thr Gly Ser Asn Phe Gln Ile Trp Asn Tyr Gly  
 130 135 140

Ile Asn Gly Asp Ile Lys Ser Thr Tyr Phe Asp Ile Lys Lys Ala Thr  
 145 150 155 160

Thr Lys Val Ile Lys Tyr Asp Asp Lys Lys Arg Asn Ser Asn Ser Thr  
 165 170 175

Ile Ile Val Asn Asn Lys Ile Lys Ser Lys Glu Lys Asn Gln Tyr Leu  
 180 185 190

Asp Glu Glu Lys Ile Val Asn Thr Phe Glu Glu Glu Asn Thr Lys Ile  
 195 200 205

Ile Ser Thr Tyr Lys Ala Asn Asn Leu Ile Lys Glu Glu Thr Tyr Lys  
 210 215 220

Asn Asn Glu Leu Ile Lys Val Asn Asp Phe Gln Tyr Asn Glu Ser Asp  
 225 230 235 240

Met Ile Ile Phe Gln Asn Thr Lys Glu Lys Asp Lys Asp Gln Tyr Thr  
 245 250 255

Asn Thr Lys Ile Glu Tyr Glu Tyr Asn Lys Asp Asn Gln Leu Lys Ser  
 260 265 270

Lys Lys Ile Tyr Glu Asn Asp Ile Ile Tyr Leu Lys Thr Glu Tyr His  
 275 280 285

Asn Asp Asn Glu Tyr Glu Glu Glu Ile Tyr Tyr Asn Lys Lys Pro Ala  
 290 295 300

Leu Arg Val Lys His Lys Asn Gly Lys Val Thr Glu Glu Lys Pro Ile  
 305 310 315 320

Gly Thr Asn

<210> 566  
 <211> 1029  
 <212> DNA  
 <213> Homo sapiens

<400> 566  
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 tatttttgcg ctgatgtatt tttcaataaa taccaaaaat taaatgaaaa accaaaaacg 120  
 ggggtttata ttgagtatta ttctgttgat gatactgaaa aactctacct atacaaagaa 180  
 aataacttaa taaaatacaa aacaattcaa atcatagaaa acacaaaaaa aattacatgt 240  
 tatgatacaa aagatacaaa aagaaaagaa gagattttacg ataattttaa taacaaaata 300  
 caagaaattg aatatgatag caaaggaaaa actcttgaaa cagcaaatta cgtttatgaa 360  
 aacgaaaact taatatctaa aaatttataa acaataaacc aaaaaccaaa attaatatat 420  
 tattctaaag acgacaattg taaattacta aaaataacag gatcaaattt ccaaatttgg 480  
 aactatggaa ttaattggcg cataaaatct acatattttg acatcaaaaa agcaacaaca 540  
 aaagttataa aatatgatga taaaaaaga aattcaaca gtacaataat tgtaataat 600  
 aaaataaaat ccaaagaaaa aaaccaatat ttagatgaag aaaaaatag aaataccttt 660  
 gaagaagaga atacaaaaat catatctacc tacaaggcaa acaacctaata taaagaagaa 720  
 acatataaaa ataatgaact tataaaagta aatgattttc aatacaacga atctgatatg 780  
 ataatttttc aaaacactaa agaaaaggat aaagaccaat acaccaatac taaaattgaa 840  
 tacgaatata acaaagacaa tcaattaaaa agcaaaaaaa tttatgagaa cgatataatt 900  
 tatctaaaaa ctgaatacca caatgacaat gaatatgaag aagaaatata ctacaataaa 960  
 aaacctgtct ttagggttaa acacaagaac ggaaaagtca ccgaagaaaa accaatagga 1020  
 acaaattaa 1029

<210> 567  
 <211> 972  
 <212> DNA  
 <213> Homo sapiens

<400> 567  
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 acgggggttt atattgagta ttattctggt gatgatactg aaaaactcta cctatacaaa 120  
 gaaaataact taataaaata caaaacaatt caaatcatag aaaacacaaa aaaaattaca 180  
 tgttatgata caaaagatac aaaaagaaaa gaagagattt acgataattt aaataacaaa 240  
 atacaagaaa ttgaatatga tagcaaagga aaaactcttg aaacagcaaa ttacgtttat 300  
 gaaaacgaaa acttaatatc taaaaattta aaaacaataa accaaaaacc aaaattaata 360  
 tattattcta aagacgacaa tggtaaatta ctaaaaataa caggatcaaa tttccaaatt 420  
 tggaactatg gaattaatgg cgacataaaa tctacatatt ttgacatcaa aaaagcaaca 480  
 acaaaaagtta taaaatatga tgataaaaaa agaaattcaa acagtacaat aattgttaat 540  
 aataaaataa aatccaaaga aaaaaaccaa tatttagatg aagaaaaaat agtaaatacc 600  
 tttgaagaag agaatacaaa atcatatct acctacaagg caaacaacct aattaaagaa 660  
 gaaacatata aaaataatga acttataaaa gttaatgatt ttcaatacaa cgaatctgat 720  
 atgataattt ttcaaaacac taaagaaaag gataaagacc aatacaccaa tactaaaatt 780  
 gaatacgaat ataacaaaga caatcaatta aaaagcaaaa aaattttatga gaacgatata 840  
 atttatctaa aaactgaata ccacaatgac aatgaatatg aagaagaaat atactacaat 900  
 aaaaaacctg ctcttagggg aaaaacacaag aacggaaaag tcaccgaaga aaaaccaata 960  
 ggaacaaatt aa 972

<210> 568  
 <211> 469  
 <212> PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 568

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Met Glu Lys Leu Lys Leu Lys Leu Ala Ile Pro Leu Leu Val Phe Thr
  1           5           10           15

Ile Cys Lys Ile His Ser Gln Ser Asn Ile Glu Tyr Asn Phe Ser Tyr
      20           25           30

Ile Ile Asn Thr Lys Lys Glu Asn Ile Asp Leu Lys Lys Gly Ile Glu
      35           40           45

Lys Gln Leu Asp Lys Ile Tyr Asp Lys Ile Thr Glu His Ile Val Asn
      50           55           60

Asn Asp Asp Lys Ser Ile Ile Glu Asp Ile Tyr Ile Asn Gln Asp Ile
      65           70           75           80

Ile Lys Thr Glu Leu Glu Ile Ser Lys Leu Lys Lys Glu Met Asp Lys
      85           90           95

Lys Lys Leu Gln Asn Ile Ile Thr Ala Lys Glu Lys His Asn Thr Lys
      100          105          110

Thr Lys Ile Asp Glu Leu Lys Lys Asn Ile Gln Asn Ile Asn Asn Lys
      115          120          125

Gln Lys Lys Phe Ala Glu Tyr Phe Asn Asn Leu Lys Lys Leu Lys Val
      130          135          140

Lys Tyr Lys Lys Ile Glu Glu Gln Thr Asn Ile Ser Asn Leu Asn Lys
      145          150          155          160

Glu Phe Phe Ile Arg Glu Glu Leu Phe Phe Ile Asn Tyr Ile Asp Leu
      165          170          175

Lys Lys Ile Glu Asn Tyr Tyr Leu Leu Glu Ile Ser Asn Ile Thr Pro
      180          185          190

Glu Lys Ile Glu Thr Lys Lys Ala Val Phe Lys Thr Ser Ser Ser Val
      195          200          205

Asn Glu Ile Ala Asp His Ile Thr Lys Tyr Ser Leu Lys Glu Ile Leu
      210          215          220

Gly Arg Glu Phe Leu Lys Ile Asn Ile Asn Val Lys Asn Asn Ser Asp
      225          230          235          240

Ala Lys Ile Tyr Ile Asn Glu Lys Phe Val Ser Lys Gly Ile Tyr His
      245          250          255

Asp Asn Ile Phe Asp Ile Ser Lys Leu Pro Asn Lys Glu Ile Glu Ile
      260          265          270

Gln Ile Thr Ser Ala Asn Phe Glu Asn Tyr Ser Ile Lys Arg Thr Val
      275          280          285

Lys Asn Ala Asp Ser Ile Ile Leu Asp Ile Asp Leu Lys Arg Thr Ile

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290                      295                      300  
 Ser Lys Lys Val Ser Ile Lys Ser Asn Val Gln Ser Lys Val Phe Lys  
 305                      310                      315                      320  
 Lys Gly Ile Phe Met Gly Glu Thr Pro Ile Glu Ile Glu Lys Pro Glu  
                     325                      330                      335  
 Asn Gln Asp Ile Ile Leu Leu Lys Ser Lys Gly Tyr Lys Asp Lys Phe  
                     340                      345                      350  
 Lys Leu Ile Asn Lys Glu Glu Asp Gln Val Glu Ile Glu Met Ile Lys  
                     355                      360                      365  
 Thr Asn Lys Asn Arg Leu Ile Asp Thr Arg Asp Lys Phe Tyr Val Asn  
                     370                      375                      380  
 Leu Ala Val Phe Thr Leu Ser Thr Ile Gly Ala Ile Phe Ala Gly Thr  
 385                      390                      395                      400  
 Leu Leu Asn Asn Ser Glu Val Leu Tyr Lys Ile Thr Gly Asn His Phe  
                     405                      410                      415  
 Ile Asn Lys Arg Leu Thr Ala Glu Asp Val Tyr Met Ala Lys Ala Glu  
                     420                      425                      430  
 Gln Met Thr Ala Thr Phe Leu Phe Gly Val Gly Ile Thr Leu Thr Ile  
                     435                      440                      445  
 Gly Ser Phe Ile Ser Leu Ile Thr His Leu Val Glu Tyr Ile Lys Glu  
                     450                      455                      460  
 Ala Asn Met Gly Glu  
 465  
 <210> 569  
 <211> 446  
 <212> PRT  
 <213> Homo sapiens  
 <400> 569  
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                     20                      25                      30  
 Asp Lys Ile Thr Glu His Ile Val Asn Asn Asp Asp Lys Ser Ile Ile  
                     35                      40                      45  
 Glu Asp Ile Tyr Ile Asn Gln Asp Ile Ile Lys Thr Glu Leu Glu Ile  
                     50                      55                      60  
 Ser Lys Leu Lys Lys Glu Met Asp Lys Lys Lys Leu Gln Asn Ile Ile  
   65                      70                      75                      80  
 Thr Ala Lys Glu Lys His Asn Thr Lys Thr Lys Ile Asp Glu Leu Lys  
                     85                      90                      95

Lys Asn Ile Gln Asn Ile Asn Asn Lys Gln Lys Lys Phe Ala Glu Tyr  
 100 105 110  
 Phe Asn Asn Leu Lys Lys Leu Lys Val Lys Tyr Lys Lys Ile Glu Glu  
 115 120 125  
 Gln Thr Asn Ile Ser Asn Leu Asn Lys Glu Phe Phe Ile Arg Glu Glu  
 130 135 140  
 Leu Phe Phe Ile Asn Tyr Ile Asp Leu Lys Lys Ile Glu Asn Tyr Tyr  
 145 150 155 160  
 Leu Leu Glu Ile Ser Asn Ile Thr Pro Glu Lys Ile Glu Thr Lys Lys  
 165 170 175  
 Ala Val Phe Lys Thr Ser Ser Ser Val Asn Glu Ile Ala Asp His Ile  
 180 185 190  
 Thr Lys Tyr Ser Leu Lys Glu Ile Leu Gly Arg Glu Phe Leu Lys Ile  
 195 200 205  
 Asn Ile Asn Val Lys Asn Asn Ser Asp Ala Lys Ile Tyr Ile Asn Glu  
 210 215 220  
 Lys Phe Val Ser Lys Gly Ile Tyr His Asp Asn Ile Phe Asp Ile Ser  
 225 230 235 240  
 Lys Leu Pro Asn Lys Glu Ile Glu Ile Gln Ile Thr Ser Ala Asn Phe  
 245 250 255  
 Glu Asn Tyr Ser Ile Lys Arg Thr Val Lys Asn Ala Asp Ser Ile Ile  
 260 265 270  
 Leu Asp Ile Asp Leu Lys Arg Thr Ile Ser Lys Lys Val Ser Ile Lys  
 275 280 285  
 Ser Asn Val Gln Ser Lys Val Phe Lys Lys Gly Ile Phe Met Gly Glu  
 290 295 300  
 Thr Pro Ile Glu Ile Glu Lys Pro Glu Asn Gln Asp Ile Ile Leu Leu  
 305 310 315 320  
 Lys Ser Lys Gly Tyr Lys Asp Lys Phe Lys Leu Ile Asn Lys Glu Glu  
 325 330 335  
 Asp Gln Val Glu Ile Glu Met Ile Lys Thr Asn Lys Asn Arg Leu Ile  
 340 345 350  
 Asp Thr Arg Asp Lys Phe Tyr Val Asn Leu Ala Val Phe Thr Leu Ser  
 355 360 365  
 Thr Ile Gly Ala Ile Phe Ala Gly Thr Leu Leu Asn Asn Ser Glu Val  
 370 375 380  
 Leu Tyr Lys Ile Thr Gly Asn His Phe Ile Asn Lys Arg Leu Thr Ala  
 385 390 395 400

Glu Asp Val Tyr Met Ala Lys Ala Glu Gln Met Thr Ala Thr Phe Leu  
 405 410 415

Phe Gly Val Gly Ile Thr Leu Thr Ile Gly Ser Phe Ile Ser Leu Ile  
 420 425 430

Thr His Leu Val Glu Tyr Ile Lys Glu Ala Asn Met Gly Glu  
 435 440 445

<210> 570

<211> 1410

<212> DNA

<213> Homo sapiens

<400> 570

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attgacctaa aaaagggtat tgaaaaacaa ttggacaaaa tctatgataa aataacagaa 180
catatagtaa acaatgatga caagagcatc attgaagaca tttatataaa tcaagatata 240
ataaaaaacag aacttgaaat tagcaaatta aaaaaagaaa tggataaaaa aaaacttcaa 300
aacataataa ccgcaaaaaga aaagcataac accaaaacca aaattgatga gcttaaaaaa 360
aatattcaaa atattaacaa taaacaaaaa aaatttgcag aatattttta caatttataa 420
aaactaaaag taaaatataa aaaaatcgaa gagcaaacaa atatatcaaa tttaaataaa 480
gaatttttta taagagaaga attatttttt attaactata ttgatcttaa aaaaatagaa 540
aattattatt tgctagaaat tagcaacatc actcctgaga aaattgagac taaaaaagcg 600
gtatttataaa catcatcttc tgttaatgaa attgcagatc acataacaaa atacagcctc 660
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gcaaaaatct acataaatga aaaatttgtt tcaaaaggaa tctatcacga taatattttt 780
gacattttcta aactcccaaa caaagaaatt gaaatacaaa tcacaagtgc aaatttcgaa 840
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aaaggaatat ttatgggaga aacccaatt gaaattgaaa aaccagaaaa tcaagatatc 1020
atcttgctta aatctaaagg atataaagat aaattcaagt taataaataa agaagaagat 1080
caagtagaaa tagaaatgat aaaaactaac aaaaatagac ttatcgacac aagagataaa 1140
ttttatgtca atctggccgt ctttacatta agcacaatag gagccatttt tgcaggaaca 1200
ttgcttaaca attcagaagt actttataaa ataacaggca atcactttat taacaaaaga 1260
ttaacagcag aagatgttta tatggcaaaa gcggaacaaa tgactgcaac atttctattt 1320
ggagtaggaa tcactttaac tattggaagc tttatctcat taataactca tttagtagaa 1380
tatattaaag aagcaaatat gggagaatag 1410

```

<210> 571

<211> 1341

<212> DNA

<213> Homo sapiens

<400> 571

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agtaatattg aatacaattt ttctatatc attaatacaa aaaaagaaaa tattgacctt 60
aaaaagggtt ttgaaaaaca attggacaaa atctatgata aaataacaga acatatagta 120
aacaatgatg acaagagcat cattgaagac atttatataa atcaagatat aataaaaaa 180
gaacttgaaa ttagcaaatt aaaaaagaaa atggataaaa aaaaacttca aaacataata 240
accgcaaaag aaaagcataa caccaaaacc aaattgatg agcttaaaaa aaatattcaa 300
aatattaaca ataaacaaaa aaaatttgca gaatatttta acaattttaa aaaactaaaa 360
gtaaaatata aaaaaatcga agagcaaaca aatatatcaa atttaataaa agaatttttt 420
ataagagaag aattattttt tattaactat attgatctta aaaaaataga aaattattat 480
ttgctagaaa ttagcaacat cactcctgag aaaattgaga ctaaaaaagc ggtattttaa 540
acatcatctt ctgttaatga aattgcagat cacataacaa aatacagcct caaagaaata 600
ttgggcagag aattttttaa aatcaacatt aacgtcaaaa ataactcgga tgcaaaaatc 660
tacataaatg aaaaatttgt ttcaaaagga atctatcacg ataatttttt tgacattttt 720

```



```

aaactcccaa acaaagaaat tgaaatacaa atcacaagtg caaatttcga aaactattct 780
attaaaagaa cggtaaaaaa tgcagactca ataatttag atattgactt aaaaagaaca 840
atctctaaaa aagtatcaat taaaagcaat gtacaatcta aagtttttaa aaaaggaata 900
tttatgggag aaacccaat tgaaattgaa aaaccagaaa atcaagatat catcttgctt 960
aaatctaaag gatataaaga taaattcaag ttaataaata aagaagaaga tcaagtagaa 1020
atagaaatga taaaaactaa caaaaataga cttatcgaca caagagataa attttatgtc 1080
aatctggccg tctttacatt aagcacaata ggagccattt ttgcaggaac attgcttaac 1140
aattcagaag tactttataa aataacaggc aatcacttta ttaacaaaag attaacagca 1200
gaagatgttt atatggcaaa agcggaaaca atgactgcaa catttctatt tggagtagga 1260
atcactttta ctattggaag ctttatctca ttaataactc atttagtaga atatattaaa 1320
gaagcaaata tgggagaata g                                     1341

```

<210> 572

<211> 490

<212> PRT

<213> Homo sapiens

<400> 572

```

Met Val Arg Phe Leu Gly Phe Leu Tyr Leu Ile Thr Thr Ile Pro Leu
  1           5           10           15

```

```

Ile Lys Ser Cys Asp Ala Ala Gln Phe Gly Asp Tyr Lys Pro Leu Tyr
          20           25           30

```

```

Phe Glu Asn Glu Asn Asp Leu Lys Thr Ala Asn Glu Tyr Ile Asn Ser
          35           40           45

```

```

Leu Gly Tyr Lys Thr Ile Ser Glu Tyr Thr Thr Lys Ile Asp Ile Leu
          50           55           60

```

```

Asp Phe Pro Glu Asn Lys Glu Ile Thr Ile Asn Glu Ile Asn Lys Leu
          65           70           75           80

```

```

Asn Asn Leu Asp Leu Arg Lys Ser Ile Phe Leu Lys Lys Leu Ser Asn
          85           90           95

```

```

Leu Phe Asn Ile Glu His Lys Lys Leu Leu Tyr Val Glu Asn Arg Phe
          100          105          110

```

```

Lys Ser Ile Asn Phe Lys Asn Leu Lys Lys Glu Leu Asn Ile Asn Ala
          115          120          125

```

```

Asp Ile His Ser Leu Asp Tyr Lys Thr Lys Ile Asn Phe Ile Ser Ser
          130          135          140

```

```

Ile Ile Phe Leu Ile Ile Ile Ile Leu Leu Ile Phe Leu Asp Pro Thr
          145          150          155          160

```

```

Asn Ser Ile Phe Thr Leu Ile Phe Leu Leu Ile Ser Ser Leu Ala Phe
          165          170          175

```

```

Met Ile Ser Lys Glu Ile Met Tyr Phe Tyr Pro Phe Thr Val Leu Ser
          180          185          190

```

```

Tyr Leu Leu Phe Leu Ile Ile Ser Asn Phe Asn Lys Asn Tyr Asn Lys
          195          200          205

```

```

Ile Tyr Leu Lys Glu Ile Asn Phe Leu Thr Leu Met Thr Lys Ile Lys

```

210	215	220
His Leu Leu Phe Leu Phe Thr Phe Thr Ala Leu Tyr Phe Ile Thr Ile 225 230 235 240		
Thr Thr Phe Phe Thr Thr Asn Ile Asp Pro Thr Phe Ile Ala Phe Val 245 250 255		
Ala Ile Pro Thr Leu Cys Ile Phe Leu Ile Phe Ser Trp Ile Lys Thr 260 265 270		
Glu Ser Asn Phe Lys Asp Thr Phe Leu Phe Pro Ile Glu Ile Lys Glu 275 280 285		
Lys Lys Ile Glu Gly Lys Lys Ala Leu Lys Ser Lys Ile Ala Ile His 290 295 300		
Leu Leu Leu Phe Thr Leu Ser Leu Ile Pro Phe Ala Tyr Ser Ser Tyr 305 310 315 320		
Met Leu Asn Ser Tyr Glu Asn Ile Asn Tyr Leu Tyr Ser Lys Lys Leu 325 330 335		
Asn Tyr Phe Asp Tyr Leu Asn Pro Asn Asn Ile Tyr Ile Met Leu Gly 340 345 350		
Tyr Asn Lys Asp Met Pro Asn Ile Ile Gly Tyr Leu Ser His Ile Leu 355 360 365		
Tyr Gln Asn Glu Leu Lys Tyr Asn Ile Thr Ala Lys Tyr Gly Lys Ile 370 375 380		
Pro Lys Asp Ile Lys Glu Asn Tyr Phe Glu Ile Lys Asn Asp Lys Ile 385 390 395 400		
Glu Ile His Pro Lys Thr Val Tyr Glu Val Asp Lys Ser Phe Ile Asp 405 410 415		
Glu Ile Leu Lys Lys Asp Leu Ala Ser Leu Phe Leu Lys Asn Lys Asn 420 425 430		
Pro Ile Leu Ile Tyr Lys Glu Asn Lys Asn Asn Ile Asn Thr Asp Lys 435 440 445		
Lys Asn Tyr Lys Ile Leu Phe Phe Phe Ser Leu Pro Phe Phe Val Leu 450 455 460		
Leu Phe Leu Phe Lys Ala Ile Arg Phe Thr Ile Leu Leu Asn Ile Asn 465 470 475 480		
Glu Lys Thr Tyr Lys Lys Tyr Ile Gln Gly 485 490		

&lt;210&gt; 573

&lt;211&gt; 471

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 573

Cys Asp Ala Ala Gln Phe Gly Asp Tyr Lys Pro Leu Tyr Phe Glu Asn  
 1 5 10 15  
 Glu Asn Asp Leu Lys Thr Ala Asn Glu Tyr Ile Asn Ser Leu Gly Tyr  
 20 25 30  
 Lys Thr Ile Ser Glu Tyr Thr Thr Lys Ile Asp Ile Leu Asp Phe Pro  
 35 40 45  
 Glu Asn Lys Glu Ile Thr Ile Asn Glu Ile Asn Lys Leu Asn Asn Leu  
 50 55 60  
 Asp Leu Arg Lys Ser Ile Phe Leu Lys Lys Leu Ser Asn Leu Phe Asn  
 65 70 75 80  
 Ile Glu His Lys Lys Leu Leu Tyr Val Glu Asn Arg Phe Lys Ser Ile  
 85 90 95  
 Asn Phe Lys Asn Leu Lys Lys Glu Leu Asn Ile Asn Ala Asp Ile His  
 100 105 110  
 Ser Leu Asp Tyr Lys Thr Lys Ile Asn Phe Ile Ser Ser Ile Ile Phe  
 115 120 125  
 Leu Ile Ile Ile Ile Leu Leu Ile Phe Leu Asp Pro Thr Asn Ser Ile  
 130 135 140  
 Phe Thr Leu Ile Phe Leu Leu Ile Ser Ser Leu Ala Phe Met Ile Ser  
 145 150 155 160  
 Lys Glu Ile Met Tyr Phe Tyr Pro Phe Thr Val Leu Ser Tyr Leu Leu  
 165 170 175  
 Phe Leu Ile Ile Ser Asn Phe Asn Lys Asn Tyr Asn Lys Ile Tyr Leu  
 180 185 190  
 Lys Glu Ile Asn Phe Leu Thr Leu Met Thr Lys Ile Lys His Leu Leu  
 195 200 205  
 Phe Leu Phe Thr Phe Thr Ala Leu Tyr Phe Ile Thr Ile Thr Thr Phe  
 210 215 220  
 Phe Thr Thr Asn Ile Asp Pro Thr Phe Ile Ala Phe Val Ala Ile Pro  
 225 230 235 240  
 Thr Leu Cys Ile Phe Leu Ile Phe Ser Trp Ile Lys Thr Glu Ser Asn  
 245 250 255  
 Phe Lys Asp Thr Phe Leu Phe Pro Ile Glu Ile Lys Glu Lys Lys Ile  
 260 265 270  
 Glu Gly Lys Lys Ala Leu Lys Ser Lys Ile Ala Ile His Leu Leu Leu  
 275 280 285  
 Phe Thr Leu Ser Leu Ile Pro Phe Ala Tyr Ser Ser Tyr Met Leu Asn  
 290 295 300

Ser Tyr Glu Asn Ile Asn Tyr Leu Tyr Ser Lys Lys Leu Asn Tyr Phe  
305 310 315 320

Asp Tyr Leu Asn Pro Asn Asn Ile Tyr Ile Met Leu Gly Tyr Asn Lys  
325 330 335

Asp Met Pro Asn Ile Ile Gly Tyr Leu Ser His Ile Leu Tyr Gln Asn  
340 345 350

Glu Leu Lys Tyr Asn Ile Thr Ala Lys Tyr Gly Lys Ile Pro Lys Asp  
355 360 365

Ile Lys Glu Asn Tyr Phe Glu Ile Lys Asn Asp Lys Ile Glu Ile His  
370 375 380

Pro Lys Thr Val Tyr Glu Val Asp Lys Ser Phe Ile Asp Glu Ile Leu  
385 390 395 400

Lys Lys Asp Leu Ala Ser Leu Phe Leu Lys Asn Lys Asn Pro Ile Leu  
405 410 415

Ile Tyr Lys Glu Asn Lys Asn Asn Ile Asn Thr Asp Lys Lys Asn Tyr  
420 425 430

Lys Ile Leu Phe Phe Phe Ser Leu Pro Phe Phe Val Leu Leu Phe Leu  
435 440 445

Phe Lys Ala Ile Arg Phe Thr Ile Leu Leu Asn Ile Asn Glu Lys Thr  
450 455 460

Tyr Lys Lys Tyr Ile Gln Gly  
465 470

<210> 574

<211> 1473

<212> DNA

<213> Homo sapiens

<400> 574

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atggtgcgtt ttttaggttt tttatatatta attacaacaa taccacttat caaatcctgt 60
gatgcagctc aatttggaga ctacaaacct ttatactttg aaaatgaaaa tgatctaaaa 120
actgccaatg aatatataaa ttcactagga tacaaaacaa tctcagaata cacaacaaaa 180
attgacattt tagactttcc cgaaaataaa gaaatcacia taaatgagat aaacaaactt 240
aacaatcttg acctgagaaa aagcatattt ttaaaaaagc tctccaatct tttcaacata 300
gagcacaaaa aacttcttta tgttgaaaac aggtttaaaa gtataaattt taaaaaccta 360
aaaaaagaac tcaatattaa tgccgacata cattctcttg actacaaaac aaaaattaat 420
tttatttcaa gcataatatt tctaatacata ataattttat taattttttt agaccaca 480
aactctatat ttactttaat ttttctatta atttcatttc ttgcttttat gataagcaaa 540
gaaataatgt atttttatcc atttacagtt ctctcttatt tggtattttt aataatcagt 600
aattttaaca aaaattacaa taaaatatat ttaaaaagaaa taaatttttt aacactaatg 660
acaaaaataa aacacttact attttttatt acattcacag ctctatatatt cattacaatc 720
acaacctttt ttactacaaa tattgatccc acttttattg catttgctgc aataccaacc 780
ctttgcattt tcttaatttt cagctggata aaaacagaaa gcaattttta agacactttc 840
ttattcccaa tcgagattaa agagaaaaaa atagaaggaa aaaaagcttt aaatcaaaa 900
atagcaatac atctactact atttactctc tcattaattc ctttcgctta ttcaagctat 960
atgctaaatt cttatgaaaa cattaactac ctttacagta aaaaattaaa ttactttgat 1020
tatttaaata ctaataacat ttatataatg ctgggatata acaaagacat gcccaatatt 1080
atagggtacc tatcccacat tctttatcaa aacgaactaa aatacaatat taccgctaag 1140

```

```

tatggaaaaa ttcctaaaga tataaaagaa aattactttg aaatcaaaaa cgacaaaata 1200
gaaattcatc ctaaaactgt ttacgaagta gacaaatcat ttattgatga aattctttaa 1260
aaagatcttg caagtctgtt tttaaaaaat aaaaatccaa tcctaataa taaagaaaac 1320
aagaataata tcaacacaga taaaaaaaat tacaaaatac ttttcttttt ctctttgccc 1380
ttctttgtat tactattcct atttaaagca ataagattta caattctttt aaacataaat 1440
gaaaaaacct ataaaaaata tattcaagga taa 1473

```

&lt;210&gt; 575

&lt;211&gt; 1416

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 575

```

tgtgatgcag ctcaatttgg agactacaaa cctttatact ttgaaaatga aaatgatcta 60
aaaactgcc aatgaatat aaattcacta ggatacaaaa caatctcaga atacacaaca 120
aaaattgaca ttttagactt tcccgaaaat aaagaaatca caataaatga gataaacaaa 180
cttaacaatc ttgacctgag aaaaagcata tttttaaaaa agctctccaa tcttttcaac 240
atagagcaca aaaaacttct ttatgttgaa aacagggtta aaagtataaa ttttaaaaac 300
ctaaaaaaaag aactcaatat taatgccgac atacattctc ttgactacaa aacaaaaaatt 360
aattttattt caagcataat atttctaatt ataataattt tattaatttt ttttagacca 420
acaaaactcta tattttacttt aattttttcta ttaatttcat ctcttgcttt tatgataagc 480
aaagaaaataa tgtattttta tccatttaca gttctctctt atttggtatt ttttaataatc 540
agtaattttta acaaaaatta caataaaaata tatttaaaaag aaataaattt ttttaacacta 600
atgacaaaaa taaaacactt actattttta tttacattca cagctctata tttcattaca 660
atcacaaact tttttactac aaatattgat cccactttta ttgcatttgg cgcaatacca 720
acccttttgca ttttcttaat tttcagctgg ataaaaaacag aaagcaattt taaagacact 780
ttcttattcc caatcgagat taaagagaaa aaaatagaag gaaaaaaaagc tttaaaatca 840
aaaatagcaa tacatctact actatttaca ctctcattaa ttcctttcgc ttattcaagc 900
tatatgctaa atttcttatga aaacattaac tacctttaca gtaaaaaaatt aaattacttt 960
gattattttaa atcctaataa catttatata atgctgggat acaacaaaga catgcccaat 1020
attatagggt acctatccca cattctttat caaaacgaac taaaatacaa tattaccgct 1080
aagtatggaa aaattcctaa agatataaaa gaaaattact ttgaaatcaa aaacgacaaa 1140
atagaaattc atcctaaaac tgtttacgaa gtagacaaat catttattga tgaaattcct 1200
aaaaaagatc ttgcaagtct gtttttaaaa aataaaaatc caatccta atataaagaa 1260
aacaagaata atatcaacac agataaaaaa aattacaaaa tacttttctt tttctctttg 1320
cccttctttg tattactatt cctattttaa gcaataagat ttacaattct ttttaacata 1380
aatgaaaaaa cctataaaaa atatattcaa ggataa 1416

```

&lt;210&gt; 576

&lt;211&gt; 153

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 576

```

Met Ile Arg Ala Leu Leu Thr Asn Asp Leu Phe Leu Ser Cys Leu Val
  1           5           10           15

```

```

Ser Gly Ile Ser Ala Gln Val Ile Lys Tyr Gly Ile Gln Thr Val Lys
      20           25           30

```

```

Thr Arg Lys Leu Lys Leu Thr Pro Val His Leu Leu Lys Lys Ile Phe
    35           40           45

```

```

Leu Glu Thr Gly Gly Met Pro Ser Ser His Ser Ser Thr Val Thr Ala
    50           55           60

```

```

Leu Ser Thr Ser Ile Ala Leu Thr Glu Gly Ile Asp Thr Asn Phe Ile
    65           70           75           80

```

Ile Ala Leu Ala Phe Ala Leu Ile Thr Ile Arg Asp Ser Phe Gly Val  
85 90 95

Arg Tyr Met Ser Gly Val Gln Ala Glu Tyr Leu Asn Ala Leu Ser Glu  
100 105 110

Lys Leu Lys Lys Glu Ile Lys Ile Asp Thr Thr Lys Ile Lys Val Val  
115 120 125

Lys Gly His Lys Lys Lys Glu Val Leu Thr Gly Ile Ile Ile Gly Ile  
130 135 140

Val Ser Ala Tyr Ile Val Cys Tyr Phe  
145 150

<210> 577

<211> 133

<212> PRT

<213> Homo sapiens

<400> 577

Ala Gln Val Ile Lys Tyr Gly Ile Gln Thr Val Lys Thr Arg Lys Leu  
1 5 10 15

Lys Leu Thr Pro Val His Leu Leu Lys Lys Ile Phe Leu Glu Thr Gly  
20 25 30

Gly Met Pro Ser Ser His Ser Ser Thr Val Thr Ala Leu Ser Thr Ser  
35 40 45

Ile Ala Leu Thr Glu Gly Ile Asp Thr Asn Phe Ile Ile Ala Leu Ala  
50 55 60

Phe Ala Leu Ile Thr Ile Arg Asp Ser Phe Gly Val Arg Tyr Met Ser  
65 70 75 80

Gly Val Gln Ala Glu Tyr Leu Asn Ala Leu Ser Glu Lys Leu Lys Lys  
85 90 95

Glu Ile Lys Ile Asp Thr Thr Lys Ile Lys Val Val Lys Gly His Lys  
100 105 110

Lys Lys Glu Val Leu Thr Gly Ile Ile Ile Gly Ile Val Ser Ala Tyr  
115 120 125

Ile Val Cys Tyr Phe  
130

<210> 578

<211> 462

<212> DNA

<213> Homo sapiens

<400> 578

atgataaggg cattgcttac caatgatctt tttttgtctt gtcttgtatc aggaatttct 60  
gctcaagtga ttaaatatgg tatccaaact gtaaaaacaa gaaagttaaa actaactcca 120  
gtacatcttt taaaaaaaat ttttctagaa acaggaggca tgccaagtag tcattcatca 180

```

acgggtcaccg ctctttcaac ctcaatcgca ctaactgaag gaatagatac aaattttata 240
atagctcttg catttgcctt tattacaata agagattctt tcggcgtaag atatatgtct 300
ggagttcaag cagaatattt aaatgcatta tcagaaaaat taaaaaaaga aataaaaatt 360
gacacaacaa aaataaaagt ggtcaagggg cacaaaaaga aagaggttct aacgggcata 420
ataataggaa tagtctctgc gtatattgtg tgctattttt ag 462

```

<210> 579

<211> 402

<212> DNA

<213> Homo sapiens

<400> 579

```

gctcaagtga ttaaataatgg tatccaaact gtaaaaacaa gaaagttaaa actaactcca 60
gtacatcttt taaaaaaaaat ttttctagaa acaggaggca tgccaagtag tcattcatca 120
acgggtcaccg ctctttcaac ctcaatcgca ctaactgaag gaatagatac aaattttata 180
atagctcttg catttgcctt tattacaata agagattctt tcggcgtaag atatatgtct 240
ggagttcaag cagaatattt aaatgcatta tcagaaaaat taaaaaaaga aataaaaatt 300
gacacaacaa aaataaaagt ggtcaagggg cacaaaaaga aagaggttct aacgggcata 360
ataataggaa tagtctctgc gtatattgtg tgctattttt ag 402

```

<210> 580

<211> 108

<212> PRT

<213> Homo sapiens

<400> 580

```

Met Tyr Ile Gly Ala Ala Gly Lys Ser Phe Ser Ile Ile Ile Asp Ser
  1           5           10           15
Ala Phe Leu Ser Asn Cys Phe Leu Phe Ile Gly Ser Phe Ser Arg Ser
          20           25           30
Asp Ser Leu Met Ser Leu Ser Asn Ser Arg Phe Glu Tyr Pro Tyr Asp
          35           40           45
Ala Ser Cys Glu Phe Ser Leu Val Asn Ile Val Lys Tyr Val Cys Gly
          50           55           60
Ser Lys Tyr Ser Pro Met Arg Pro Thr Leu Ile Ile Ser Lys Leu Pro
          65           70           75           80
Val Phe Leu Leu Leu Val Arg Thr Gly Gln Phe Ser Leu Val Ser Ile
          85           90           95
Arg Leu Ile Phe Arg Ile Phe Phe His Trp Phe Glx
          100          105

```

<210> 581

<211> 87

<212> PRT

<213> Homo sapiens

<400> 581

```

Cys Phe Leu Phe Ile Gly Ser Phe Ser Arg Ser Asp Ser Leu Met Ser
  1           5           10           15
Leu Ser Asn Ser Arg Phe Glu Tyr Pro Tyr Asp Ala Ser Cys Glu Phe
          20           25           30

```

Ser Leu Val Asn Ile Val Lys Tyr Val Cys Gly Ser Lys Tyr Ser Pro  
 35 40 45

Met Arg Pro Thr Leu Ile Ile Ser Lys Leu Pro Val Phe Leu Leu Leu  
 50 55 60

Val Arg Thr Gly Gln Phe Ser Leu Val Ser Ile Arg Leu Ile Phe Arg  
 65 70 75 80

Ile Phe Phe His Trp Phe Glx  
 85

<210> 582

<211> 324

<212> DNA

<213> Homo sapiens

<400> 582

atgtatatggtg gtcgagcagg aaaatctttt tcaattatta ttgattctgc ttttctgagt 60  
 aattgttttc tttttatagg atctttttca agatctgatt ctctgatgag tttgtcaaag 120  
 tctagggttg aatatccgta tgatgcaagt tgtgaatttt ctcttgatgaa tatagtaaag 180  
 tatgtgtgtg gatctaaata ttccccaatg cgtccaactc ttattatttc aaaattgcca 240  
 gtatttctgc tgttggttaag aacaggccaa ttttcgttgg taagcataag attgatattt 300  
 agaatttttt tccattgggt ttga 324

<210> 583

<211> 261

<212> DNA

<213> Homo sapiens

<400> 583

tgttttcttt ttataggatc tttttcaaga tctgattctc tgatgagttt gtcaaattct 60  
 aggtttgaat atccgtatga tgcaagttgt gaattttctc ttgtgaatat agtaaagtat 120  
 gtgtgtggat cttaaatttc cccaatgcgt ccaactctta ttatttcaaa attgccagta 180  
 tttctgctgt tggttaagaac aggccaaatt tcgttggtta gcataagatt gatatttaga 240  
 atttttttcc attggttttg a 261

<210> 584

<211> 529

<212> PRT

<213> Homo sapiens

<400> 584

Met Lys Leu Gln Arg Ser Leu Phe Leu Ile Ile Phe Phe Leu Thr Phe  
 1 5 10 15

Leu Cys Cys Asn Asn Lys Glu Arg Lys Glu Gly Val Ser Phe Lys Ile  
 20 25 30

Ser Leu Gly Ala Glu Pro Ser Ser Leu Asp Pro Gln Leu Ala Glu Asp  
 35 40 45

Asn Val Ala Ser Lys Met Ile Asp Thr Met Phe Arg Gly Ile Val Thr  
 50 55 60

Gly Asp Pro Asn Thr Gly Gly Asn Lys Pro Gly Leu Ala Lys Gly Trp  
 65 70 75 80



Asp	Ile	Ser	Ser	Asp	Gly	Thr	Val	Tyr	Thr	Phe	Asn	Leu	Arg	Glu	Lys
				85					90					95	
Ile	Thr	Trp	Ser	Asp	Gly	Val	Ala	Ile	Thr	Ala	Glu	Gly	Ile	Arg	Lys
			100					105					110		
Ser	Tyr	Leu	Arg	Ile	Leu	Asn	Lys	Glu	Thr	Gly	Ser	Lys	Tyr	Val	Glu
		115					120					125			
Met	Val	Lys	Ser	Val	Ile	Lys	Asn	Gly	Gln	Lys	Tyr	Phe	Asp	Gly	Gln
	130					135					140				
Val	Thr	Asp	Ser	Glu	Leu	Gly	Ile	Arg	Ala	Ile	Asp	Glu	Lys	Thr	Leu
145					150					155					160
Glu	Ile	Thr	Leu	Glu	Ser	Pro	Lys	Pro	Tyr	Phe	Ile	Asp	Met	Leu	Val
			165						170					175	
His	Gln	Ser	Phe	Ile	Pro	Val	Pro	Val	His	Val	Thr	Glu	Lys	Tyr	Gly
			180					185					190		
Gln	Asn	Trp	Thr	Ser	Pro	Glu	Asn	Met	Val	Thr	Ser	Gly	Pro	Phe	Lys
		195					200					205			
Leu	Lys	Glu	Arg	Ile	Pro	Asn	Glu	Lys	Tyr	Val	Phe	Glu	Lys	Asn	Asn
	210					215					220				
Lys	Tyr	Tyr	Asp	Ser	Asn	Glu	Val	Glu	Leu	Glu	Glu	Ile	Thr	Phe	Tyr
225					230				235						240
Thr	Thr	Asn	Asp	Ser	Ser	Thr	Ala	Tyr	Lys	Met	Tyr	Glu	Asn	Glu	Glu
			245						250					255	
Leu	Asp	Ala	Ile	Phe	Gly	Ser	Ile	Pro	Pro	Asp	Leu	Ile	Lys	Asn	Leu
			260					265					270		
Lys	Leu	Arg	Ser	Asp	Tyr	Tyr	Ser	Ser	Ala	Val	Asn	Ala	Ile	Tyr	Phe
		275					280					285			
Tyr	Ala	Phe	Asn	Thr	His	Ile	Lys	Pro	Leu	Asp	Asn	Val	Lys	Ile	Arg
	290					295					300				
Lys	Ala	Leu	Thr	Leu	Ala	Ile	Asp	Arg	Glu	Thr	Leu	Thr	Tyr	Lys	Val
305					310				315						320
Leu	Asp	Asn	Gly	Thr	Thr	Pro	Thr	Arg	Arg	Ala	Thr	Pro	Asn	Phe	Ser
			325						330					335	
Ser	Tyr	Ser	Tyr	Ala	Lys	Ser	Leu	Glu	Leu	Phe	Asn	Pro	Glu	Ile	Ala
			340					345					350		
Lys	Thr	Leu	Leu	Ala	Glu	Ala	Gly	Tyr	Pro	Asn	Gly	Asn	Gly	Phe	Pro
		355					360					365			
Ile	Leu	Lys	Leu	Lys	Tyr	Asn	Thr	Asn	Glu	Ala	Asn	Lys	Lys	Ile	Cys
	370					375					380				

Glu Phe Ile Gln Asn Gln Trp Lys Lys Asn Leu Asn Ile Asp Val Glu  
 385 390 395 400  
 Leu Glu Asn Glu Glu Trp Thr Thr Tyr Leu Asn Thr Lys Ala Asn Gly  
 405 410 415  
 Asn Tyr Glu Ile Ala Arg Ala Gly Trp Ile Gly Asp Tyr Ala Asp Pro  
 420 425 430  
 Leu Thr Phe Leu Ser Ile Phe Thr Gln Gly Tyr Thr Gln Phe Ser Ser  
 435 440 445  
 His Asn Tyr Ser Asn Pro Glu Tyr Asn Glu Leu Ile Lys Lys Ser Asp  
 450 455 460  
 Leu Glu Leu Asp Pro Ile Lys Arg Gln Asp Ile Leu Arg Gln Ala Glu  
 465 470 475 480  
 Glu Ile Ile Ile Glu Lys Asp Phe Pro Ile Ala Pro Ile Tyr Ile Tyr  
 485 490 495  
 Gly Asn Ser Tyr Leu Phe Arg Asn Asp Lys Trp Thr Gly Trp Asn Thr  
 500 505 510  
 Asn Ile Leu Glu Arg Phe Asp Leu Ser Gln Leu Lys Leu Lys Asn Lys  
 515 520 525

Glx

&lt;210&gt; 585

&lt;211&gt; 512

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 585

Cys Cys Asn Asn Lys Glu Arg Lys Glu Gly Val Ser Phe Lys Ile Ser  
 1 5 10 15

Leu Gly Ala Glu Pro Ser Ser Leu Asp Pro Gln Leu Ala Glu Asp Asn  
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Val Ala Ser Lys Met Ile Asp Thr Met Phe Arg Gly Ile Val Thr Gly  
 35 40 45

Asp Pro Asn Thr Gly Gly Asn Lys Pro Gly Leu Ala Lys Gly Trp Asp  
 50 55 60

Ile Ser Ser Asp Gly Thr Val Tyr Thr Phe Asn Leu Arg Glu Lys Ile  
 65 70 75 80

Thr Trp Ser Asp Gly Val Ala Ile Thr Ala Glu Gly Ile Arg Lys Ser  
 85 90 95

Tyr Leu Arg Ile Leu Asn Lys Glu Thr Gly Ser Lys Tyr Val Glu Met  
 100 105 110

Val Lys Ser Val Ile Lys Asn Gly Gln Lys Tyr Phe Asp Gly Gln Val

115					120					125					
Thr	Asp	Ser	Glu	Leu	Gly	Ile	Arg	Ala	Ile	Asp	Glu	Lys	Thr	Leu	Glu
130						135					140				
Ile	Thr	Leu	Glu	Ser	Pro	Lys	Pro	Tyr	Phe	Ile	Asp	Met	Leu	Val	His
145					150					155					160
Gln	Ser	Phe	Ile	Pro	Val	Pro	Val	His	Val	Thr	Glu	Lys	Tyr	Gly	Gln
				165					170					175	
Asn	Trp	Thr	Ser	Pro	Glu	Asn	Met	Val	Thr	Ser	Gly	Pro	Phe	Lys	Leu
			180					185					190		
Lys	Glu	Arg	Ile	Pro	Asn	Glu	Lys	Tyr	Val	Phe	Glu	Lys	Asn	Asn	Lys
		195					200					205			
Tyr	Tyr	Asp	Ser	Asn	Glu	Val	Glu	Leu	Glu	Glu	Ile	Thr	Phe	Tyr	Thr
210					215						220				
Thr	Asn	Asp	Ser	Ser	Thr	Ala	Tyr	Lys	Met	Tyr	Glu	Asn	Glu	Glu	Leu
225					230					235					240
Asp	Ala	Ile	Phe	Gly	Ser	Ile	Pro	Pro	Asp	Leu	Ile	Lys	Asn	Leu	Lys
				245					250					255	
Leu	Arg	Ser	Asp	Tyr	Tyr	Ser	Ser	Ala	Val	Asn	Ala	Ile	Tyr	Phe	Tyr
			260					265					270		
Ala	Phe	Asn	Thr	His	Ile	Lys	Pro	Leu	Asp	Asn	Val	Lys	Ile	Arg	Lys
		275					280					285			
Ala	Leu	Thr	Leu	Ala	Ile	Asp	Arg	Glu	Thr	Leu	Thr	Tyr	Lys	Val	Leu
	290					295					300				
Asp	Asn	Gly	Thr	Thr	Pro	Thr	Arg	Arg	Ala	Thr	Pro	Asn	Phe	Ser	Ser
305					310					315					320
Tyr	Ser	Tyr	Ala	Lys	Ser	Leu	Glu	Leu	Phe	Asn	Pro	Glu	Ile	Ala	Lys
				325					330					335	
Thr	Leu	Leu	Ala	Glu	Ala	Gly	Tyr	Pro	Asn	Gly	Asn	Gly	Phe	Pro	Ile
			340					345					350		
Leu	Lys	Leu	Lys	Tyr	Asn	Thr	Asn	Glu	Ala	Asn	Lys	Lys	Ile	Cys	Glu
		355					360					365			
Phe	Ile	Gln	Asn	Gln	Trp	Lys	Lys	Asn	Leu	Asn	Ile	Asp	Val	Glu	Leu
	370					375					380				
Glu	Asn	Glu	Glu	Trp	Thr	Tyr	Leu	Asn	Thr	Lys	Ala	Asn	Gly	Asn	
385					390				395					400	
Tyr	Glu	Ile	Ala	Arg	Ala	Gly	Trp	Ile	Gly	Asp	Tyr	Ala	Asp	Pro	Leu
				405					410					415	
Thr	Phe	Leu	Ser	Ile	Phe	Thr	Gln	Gly	Tyr	Thr	Gln	Phe	Ser	Ser	His
			420					425					430		

Asn Tyr Ser Asn Pro Glu Tyr Asn Glu Leu Ile Lys Lys Ser Asp Leu  
 435 440 445

Glu Leu Asp Pro Ile Lys Arg Gln Asp Ile Leu Arg Gln Ala Glu Glu  
 450 455 460

Ile Ile Ile Glu Lys Asp Phe Pro Ile Ala Pro Ile Tyr Ile Tyr Gly  
 465 470 475 480

Asn Ser Tyr Leu Phe Arg Asn Asp Lys Trp Thr Gly Trp Asn Thr Asn  
 485 490 495

Ile Leu Glu Arg Phe Asp Leu Ser Gln Leu Lys Leu Lys Asn Lys Glx  
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<210> 586  
 <211> 1587  
 <212> DNA  
 <213> Homo sapiens

<400> 586  
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 gggattgtta caggagatcc taatacaggg ggaaataaac cgggacttgc aaaaggggtg 240  
 gatatttctt ctgatggaac agtttacaca tttaacctaa gagaaaaaat cacttggagt 300  
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 gaaaaaata acaaatacta cgactcaaat gaagtagaat tagaagagat tacattttac 720  
 acaacaaatg acagctcaac agcgtataaa atgtatgaaa atgaagagct agatgcaatt 780  
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 tcagctgtta atgccatata cttttacgcg ttcaatacac acatcaaacc acttgacaac 900  
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 aaaaaaattt gtgaatttat tcaaaaccaa tggaaaaaaa atttaaatat tgatgtggaa 1200  
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<210> 587  
 <211> 1536  
 <212> DNA  
 <213> Homo sapiens

&lt;400&gt; 587

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ttaaataaag aaactggctc aaagtacgtt gaaatgggta aatcggtat taaaaatggg 360
caaaaaatatt ttgatggaca agtgactgac tctgaacttg gaattagagc gattgatgaa 420
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caatcattta ttccagtacc agttcatgtt accgaaaagt atggacaaaa ctggacaagc 540
cccgaaaaca tggtgacaag tggctctttt aaattaaaag aaagaattcc taacgaaaaa 600
tatgtctttg aaaaaataa caaatactac gactcaaatg aagtagaatt agaagagatt 660
acattttaca caacaaatga cagctcaaca gcgtataaaa tgtatgaaaa tgaagagcta 720
gatgcaattt ttgggtccat acccccagat ctaatcaaaa atctaaaatt aagaagcgac 780
tattactcat cagctgttaa tgccatatac ttttacgctg tcaatacaca catcaaacca 840
cttgacaacg ttaaaattag aaaagcctta actcttgcta ttgacagaga aacgcttaca 900
tataaagttc ttgacaacgg gactaccctt acaagaagag caactcccaa ctttagttca 960
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gaagcaaata aaaaaatttg tgaatttatt caaaaccaat ggaaaaaaa tttaaatatt 1140
gatgtggaac ttgaaaacga agaattggaca acatacttaa acactaaggc aaatgggaaat 1200
tatgaaatag caagagcagg atggataggc gattatgctg atcctttgac atttttaagc 1260
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gaacttataa agaaatccga ctttgagctt gatccaataa aaagacaaga cattttaaga 1380
caagcagaag agataattat tgaaaaagat tttccaatag caccaatata catatatggg 1440
aacagttacc ttttcagaaa tgacaaatgg acaggggtgga acaccaatat tttagaaga 1500
tttgatttat ctcagctaaa attaaaaaat aaataa 1536

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&lt;210&gt; 588

&lt;211&gt; 718

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 588

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Leu Phe Leu Ser Leu Val Ser Cys Phe Ala Lys Lys Glu Ile Ser Gly
      20              25              30

Asn Asn Phe Ile Lys Ala His Ser Lys Glu Phe Asp Leu Asn Asn Leu
      35              40              45

Asn Trp Leu Trp Asn Phe Asp Tyr Thr Lys Lys Asn Phe Asp Lys His
      50              55              60

Phe Asn Ile Asp Pro Ser Ser Tyr Ile Tyr Val Ala Tyr Leu Phe Lys
      65              70              75              80

Lys Ile Gly Phe Glu Glu Lys Phe Val Glu Tyr Met Lys Lys Ala Ile
      85              90              95

Ala Asn Gly Asp Ser Ile Ala Ser Gln Phe Ala Gly Ile Lys Leu Ile
      100              105              110

Glu Tyr Phe Asn Ser Ala Lys Glu Tyr Phe Ala Ser Glu Leu Ile Gly
      115              120              125

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Glu Lys Leu Tyr Lys Lys Tyr Glu Asn Asn Lys Phe Ile Ile Leu Gly  
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 Tyr Phe Lys Ser Leu Tyr Trp Gln Lys Lys Asn Asp Lys Ala Leu Ser  
 145 150 155 160  
 Leu Leu Asn Lys Leu Asp Lys Met Lys Phe Ser Asp Tyr Gln Glu Asn  
 165 170 175  
 Glu Asn Ile Leu Leu Lys Ala Val Leu Tyr Leu Asn Leu Ser Asn Val  
 180 185 190  
 Ser Glu Ser Lys Ile Tyr Phe Asn Glu Leu Phe Glu Asn Leu Pro Ala  
 195 200 205  
 Asn Tyr Leu His Val Arg Ala Tyr Asp Tyr Phe Ile Ile Glu Asn Lys  
 210 215 220  
 Ser Arg Tyr Phe Gly Ala Asn Phe Leu Asn Leu Val Arg Phe Lys Tyr  
 225 230 235 240  
 Glu Val Ala Asn Gly Asn Phe Asn Gly Ala Ile Asn Ile Leu Asn Lys  
 245 250 255  
 Asn Gly Leu Asn Asp Tyr Tyr Asp Asn Asn Ile Val Leu Ser Asp Val  
 260 265 270  
 Tyr Lys Ala Phe Ile Ser Ser Gly Lys Val Ser Asn Ala Leu Thr Phe  
 275 280 285  
 Phe Ser Lys Ile Lys Ser Lys Tyr Lys Asn Tyr Tyr Leu Gly Ile Leu  
 290 295 300  
 Asn Leu Arg Glu Lys Asn Asn Leu Gly Leu Leu Leu Lys Glu Tyr  
 305 310 315 320  
 Leu Glu Gly Leu Asp Leu Asn Asn Glu Ile Asn Arg Leu Asp Leu Leu  
 325 330 335  
 Asn Thr Ala Phe Ser Asn Leu Ile Phe Thr Lys Ser Ala Arg Asp Tyr  
 340 345 350  
 Phe Ala Glu Ser Leu Pro Lys Phe Tyr Thr Glu Gly Asp Lys Lys Asn  
 355 360 365  
 Ser Thr Phe Ile Lys Ile Leu Glu Glu Tyr Ile Leu Glu Ser Ile Gln  
 370 375 380  
 Leu Glu Asp Tyr Gly Asn Leu Tyr Lys Leu Tyr Ser Asn Ala Gln Lys  
 385 390 395 400  
 Val Ile Ser Asn Ser Val Leu Ser Lys Leu Ala Phe Ile Asn Ala Arg  
 405 410 415  
 Leu Ile Tyr His Lys Leu Ile Lys Pro Asn Val Ser Gly Glu Tyr Lys  
 420 425 430  
 Ser Leu Leu His Ser Ala Val Asn Tyr Asp Lys Trp Ser Tyr Ser Ser

435		440		445
Phe Met Ser Arg Tyr Leu	Leu Asp Gln Asn Ile Asp Glu Phe Phe Thr			
450	455	460		
Gly Gly Ser Asp Ile Lys Tyr Glu Gln Ser Asp Tyr Glu Ile Phe Leu				
465	470	475		480
Glu Gly Phe Leu Lys Phe Asn Leu Cys Asn Tyr Val Arg Gly Phe Ile				
	485	490		495
Ser Glu Asp Phe Arg Asn Gly Tyr Lys Phe Ser Leu Asp Phe Tyr Arg				
	500	505		510
Lys Val Tyr Asp Glu Leu Leu Lys Ser Glu Asn Tyr Tyr Asp Ala Thr				
	515	520		525
Leu Val Ile Asn Tyr Leu Val Asn Gln Asp Glu Ser Ala Leu Met Glu				
	530	535		540
Asn Asp Tyr Lys Arg Leu Tyr Pro Tyr Leu Tyr Gly Ser Leu Ile Glu				
545	550	555		560
Tyr Trp Ala Lys Arg Arg Gly Leu Glu Ala Ser Val Val Phe Ser Leu				
	565	570		575
Ile Lys Ala Glu Ser Ser Phe Glu Lys Asn Ala Val Ser Lys Pro Gly				
	580	585		590
Ala Val Gly Leu Met Gln Val Met Pro Ser Thr Ala Asn Asp Ile Ser				
	595	600		605
Lys Glu Leu Lys Tyr Phe Asn Tyr Asp Leu Lys Ile Pro Lys Asp Asn				
	610	615		620
Ile Ile Ile Gly Thr Tyr Tyr Leu Lys Lys Arg Ile Ser Thr Thr Gly				
625	630	635		640
Ser Leu Tyr Lys Ala Leu Ala Ser Tyr Asn Gly Gly Ile Gly Asn Val				
	645	650		655
Arg Lys Trp Glu Lys Ser Tyr Gly His Leu Ser Lys Glu Leu Phe Ile				
	660	665		670
Glu Ala Ile Pro Phe Ser Gln Thr Arg Asn Tyr Ile Lys Lys Ile Leu				
	675	680		685
Val Tyr Ser Val Phe Tyr Asp Ala Leu Tyr Glu Lys Lys Gly Ile Asp				
	690	695		700
Ser Val Ile Val Lys Ile Met Gly Glu Phe Pro Lys Asn Glx				
705	710	715		

&lt;210&gt; 589

&lt;211&gt; 695

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 589

Cys Phe Ala Lys Lys Glu Ile Ser Gly Asn Asn Phe Ile Lys Ala His  
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 Ser Lys Glu Phe Asp Leu Asn Asn Leu Asn Trp Leu Trp Asn Phe Asp  
 20 25 30  
 Tyr Thr Lys Lys Asn Phe Asp Lys His Phe Asn Ile Asp Pro Ser Ser  
 35 40 45  
 Tyr Ile Tyr Val Ala Tyr Leu Phe Lys Lys Ile Gly Phe Glu Glu Lys  
 50 55 60  
 Phe Val Glu Tyr Met Lys Lys Ala Ile Ala Asn Gly Asp Ser Ile Ala  
 65 70 75 80  
 Ser Gln Phe Ala Gly Ile Lys Leu Ile Glu Tyr Phe Asn Ser Ala Lys  
 85 90 95  
 Glu Tyr Phe Ala Ser Glu Leu Ile Gly Glu Lys Leu Tyr Lys Lys Tyr  
 100 105 110  
 Glu Asn Asn Lys Phe Ile Ile Leu Gly Tyr Phe Lys Ser Leu Tyr Trp  
 115 120 125  
 Gln Lys Lys Asn Asp Lys Ala Leu Ser Leu Leu Asn Lys Leu Asp Lys  
 130 135 140  
 Met Lys Phe Ser Asp Tyr Gln Glu Asn Glu Asn Ile Leu Leu Lys Ala  
 145 150 155 160  
 Val Leu Tyr Leu Asn Leu Ser Asn Val Ser Glu Ser Lys Ile Tyr Phe  
 165 170 175  
 Asn Glu Leu Phe Glu Asn Leu Pro Ala Asn Tyr Leu His Val Arg Ala  
 180 185 190  
 Tyr Asp Tyr Phe Ile Ile Glu Asn Lys Ser Arg Tyr Phe Gly Ala Asn  
 195 200 205  
 Phe Leu Asn Leu Val Arg Phe Lys Tyr Glu Val Ala Asn Gly Asn Phe  
 210 215 220  
 Asn Gly Ala Ile Asn Ile Leu Asn Lys Asn Gly Leu Asn Asp Tyr Tyr  
 225 230 235 240  
 Asp Asn Asn Ile Val Leu Ser Asp Val Tyr Lys Ala Phe Ile Ser Ser  
 245 250 255  
 Gly Lys Val Ser Asn Ala Leu Thr Phe Phe Ser Lys Ile Lys Ser Lys  
 260 265 270  
 Tyr Lys Asn Tyr Tyr Leu Gly Ile Leu Asn Leu Arg Glu Lys Asn Asn  
 275 280 285  
 Leu Gly Leu Leu Leu Leu Lys Glu Tyr Leu Glu Gly Leu Asp Leu Asn  
 290 295 300



Asn Glu Ile Asn Arg Leu Asp Leu Leu Asn Thr Ala Phe Ser Asn Leu  
 305 310 315 320  
 Ile Phe Thr Lys Ser Ala Arg Asp Tyr Phe Ala Glu Ser Leu Pro Lys  
 325 330 335  
 Phe Tyr Thr Glu Gly Asp Lys Lys Asn Ser Thr Phe Ile Lys Ile Leu  
 340 345 350  
 Glu Glu Tyr Ile Leu Glu Ser Ile Gln Leu Glu Asp Tyr Gly Asn Leu  
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 Tyr Lys Leu Tyr Ser Asn Ala Gln Lys Val Ile Ser Asn Ser Val Leu  
 370 375 380  
 Ser Lys Leu Ala Phe Ile Asn Ala Arg Leu Ile Tyr His Lys Leu Ile  
 385 390 395 400  
 Lys Pro Asn Val Ser Gly Glu Tyr Lys Ser Leu Leu His Ser Ala Val  
 405 410 415  
 Asn Tyr Asp Lys Trp Ser Tyr Ser Ser Phe Met Ser Arg Tyr Leu Leu  
 420 425 430  
 Asp Gln Asn Ile Asp Glu Phe Phe Thr Gly Gly Ser Asp Ile Lys Tyr  
 435 440 445  
 Glu Gln Ser Asp Tyr Glu Ile Phe Leu Glu Gly Phe Leu Lys Phe Asn  
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 465 470 475 480  
 Tyr Lys Phe Ser Leu Asp Phe Tyr Arg Lys Val Tyr Asp Glu Leu Leu  
 485 490 495  
 Lys Ser Glu Asn Tyr Tyr Asp Ala Thr Leu Val Ile Asn Tyr Leu Val  
 500 505 510  
 Asn Gln Asp Glu Ser Ala Leu Met Glu Asn Asp Tyr Lys Arg Leu Tyr  
 515 520 525  
 Pro Tyr Leu Tyr Gly Ser Leu Ile Glu Tyr Trp Ala Lys Arg Arg Gly  
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 545 550 555 560  
 Glu Lys Asn Ala Val Ser Lys Pro Gly Ala Val Gly Leu Met Gln Val  
 565 570 575  
 Met Pro Ser Thr Ala Asn Asp Ile Ser Lys Glu Leu Lys Tyr Phe Asn  
 580 585 590  
 Tyr Asp Leu Lys Ile Pro Lys Asp Asn Ile Ile Ile Gly Thr Tyr Tyr  
 595 600 605  
 Leu Lys Lys Arg Ile Ser Thr Thr Gly Ser Leu Tyr Lys Ala Leu Ala

610                      615                      620

Ser Tyr Asn Gly Gly Ile Gly Asn Val Arg Lys Trp Glu Lys Ser Tyr  
625                      630                      635                      640

Gly His Leu Ser Lys Glu Leu Phe Ile Glu Ala Ile Pro Phe Ser Gln  
645                      650                      655

Thr Arg Asn Tyr Ile Lys Lys Ile Leu Val Tyr Ser Val Phe Tyr Asp  
660                      665                      670

Ala Leu Tyr Glu Lys Lys Gly Ile Asp Ser Val Ile Val Lys Ile Met  
675                      680                      685

Gly Glu Phe Pro Lys Asn Glx  
690                      695

&lt;210&gt; 590

&lt;211&gt; 2154

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 590

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<211> 2085

<212> DNA

<213> Homo sapiens

<400> 591

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<210> 592

<211> 912

<212> DNA

<213> Homo sapiens

<400> 592

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atttcaattg	cgcatactga	aaaaaaagag	acaaaaaagg	agaatttaat	cccttctact	360
aatgaagaaa	aggaagctga	tgcagcaatt	aaatatttag	aagaaaaat	tcttaaaaac	420
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aataaaaaat aa 912

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&lt;210&gt; 593

&lt;211&gt; 841

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 593

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gcaaaaaagc tttactaaaa attttggaga acggaaatat gaggatttaa ttaatcctat 180
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a 841

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&lt;210&gt; 594

&lt;211&gt; 302

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 594

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Lys Glu Asn Ile Phe Met Arg Lys Ser Leu Phe Leu Tyr Ala Leu Leu
  1              5              10              15

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Met Gly Gly Leu Met Ser Cys Asn Leu Asp Ser Lys Leu Ser Ser Asn
      20              25              30

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Lys Glu Gln Lys Asn Asn Asn Val Lys Glu Val Ser Asp Ser Val
      35              40              45

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Gln Glu Asp Gly Leu Asn Asp Leu Tyr Asn Asn Gln Glu Lys Gln Lys
      50              55              60

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Ser Phe Thr Lys Asn Phe Gly Glu Arg Lys Tyr Glu Asp Leu Ile Asn
      65              70              75              80

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Pro Ile Glu Pro Ile Ile Pro Ser Glu Ser Pro Lys Asn Lys Ala Asn
      85              90              95

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Ile Pro Asn Ile Ser Ile Ala His Thr Glu Lys Lys Glu Thr Lys Lys
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Glu Asn Leu Ile Pro Ser Thr Asn Glu Glu Lys Glu Ala Asp Ala Ala  
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Ile Lys Tyr Leu Glu Glu Asn Ile Leu Lys Asn Ser Lys Phe Ser Glu  
 130 135 140

Leu Ile Arg Glu Val Arg Val Ile Lys Asp Glu Tyr Ala Leu Ile Lys  
 145 150 155 160

Ala Asp Leu Tyr Asp Val Ile Gly Lys Ile Asn Asn Lys Lys Thr Ser  
 165 170 175

Leu Met Glu Asn Pro Lys Asn Asn Arg Asp Lys Ile Asn Lys Leu Thr  
 180 185 190

Gln Leu Leu Gln Asn Asn Leu Lys Ile Asp Ser Glu Leu Glu Gln Leu  
 195 200 205

Ile Asn Met Ile Asp Met Ala Glu Asn Glu Ile Ser Ser Ala Ala Phe  
 210 215 220

Phe Phe Asp Asn Ala Gln Lys Arg Leu Lys Glu Ser Ile Ile Lys Arg  
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Leu Glu Ser Lys Asn Asn Arg Ser Tyr Ala Leu Lys Leu Ser Arg Gln  
 245 250 255

Ala Leu Ser Asp Ala Arg Ser Ala Leu Ser Asn Leu Glu Ser Phe Ala  
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Ser Lys Arg Ile Glu Pro Met Val Arg Lys Glu Glu Ile Lys Glu Leu  
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Ile Lys His Ala Lys Thr Val Leu Glu Ser Leu Asn Lys Lys  
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<210> 595

<211> 280

<212> PRT

<213> Homo sapiens

<400> 595

Cys Asn Leu Asp Ser Lys Leu Ser Ser Asn Lys Glu Gln Lys Asn Asn  
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 20 25 30

Asp Leu Tyr Asn Asn Gln Glu Lys Gln Lys Ser Phe Thr Lys Asn Phe  
 35 40 45

Gly Glu Arg Lys Tyr Glu Asp Leu Ile Asn Pro Ile Glu Pro Ile Ile  
 50 55 60

Pro Ser Glu Ser Pro Lys Asn Lys Ala Asn Ile Pro Asn Ile Ser Ile  
 65 70 75 80

Ala His Thr Glu Lys Lys Glu Thr Lys Lys Glu Asn Leu Ile Pro Ser

85										90					95				
Thr	Asn	Glu	Glu	Lys	Glu	Ala	Asp	Ala	Ala	Ile	Lys	Tyr	Leu	Glu	Glu				
		100						105					110						
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Val	Ile	Lys	Asp	Glu	Tyr	Ala	Leu	Ile	Lys	Ala	Asp	Leu	Tyr	Asp	Val				
		130				135					140								
Ile	Gly	Lys	Ile	Asn	Asn	Lys	Lys	Thr	Ser	Leu	Met	Glu	Asn	Pro	Lys				
		145			150					155					160				
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				165					170						175				
Leu	Lys	Ile	Asp	Ser	Glu	Leu	Glu	Gln	Leu	Ile	Asn	Met	Ile	Asp	Met				
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Ala	Glu	Asn	Glu	Ile	Ser	Ser	Ala	Ala	Phe	Phe	Phe	Asp	Asn	Ala	Gln				
		195					200					205							
Lys	Arg	Leu	Lys	Glu	Ser	Ile	Ile	Lys	Arg	Leu	Glu	Ser	Lys	Asn	Asn				
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Arg	Ser	Tyr	Ala	Leu	Lys	Leu	Ser	Arg	Gln	Ala	Leu	Ser	Asp	Ala	Arg				
		225			230					235					240				
Ser	Ala	Leu	Ser	Asn	Leu	Glu	Ser	Phe	Ala	Ser	Lys	Arg	Ile	Glu	Pro				
				245					250					255					
Met	Val	Arg	Lys	Glu	Glu	Ile	Lys	Glu	Leu	Ile	Lys	His	Ala	Lys	Thr				
			260					265					270						
Val	Leu	Glu	Ser	Leu	Asn	Lys	Lys												
		275				280													

&lt;210&gt; 596

&lt;211&gt; 714

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 596

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gaaaaatcca	aaaaagaaat	tgaagatcaa	aaaaatacca	aggaaagtaa	aaacatagaa	300
gtaaaggata	ctcctcgctt	aatcaaattg	ataaagaatt	catcagaaaa	aattgattcg	360
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 <212> DNA  
 <213> Homo sapiens

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 ggtttttcaa acactaatta atataggtta taatgctacc tatgcagcca aaagtaattt 360  
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 caatgggtgat aaaagtaccc aaaaatacaa tgaacttaaa accgttgtaa ataagtttaa 480  
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<210> 598  
 <211> 236  
 <212> PRT  
 <213> Homo sapiens

<400> 598  
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 20 25 30  
 Val Glu Ser Lys Ser Ala Leu Thr Ser Ile Asp Gln Val Leu Asp Glu  
 35 40 45  
 Ile Ser Glu Ala Thr Gly Leu Ser Ser Glu Lys Ile Thr Lys Leu Thr  
 50 55 60  
 Pro Glu Glu Leu Glu Asn Leu Ala Lys Glu Ala Gln Asp Asp Ser Glu  
 65 70 75 80  
 Lys Ser Lys Lys Glu Ile Glu Asp Gln Lys Asn Thr Lys Glu Ser Lys  
 85 90 95  
 Asn Ile Glu Val Lys Asp Thr Pro Arg Leu Ile Lys Leu Ile Lys Asn  
 100 105 110  
 Ser Ser Glu Lys Ile Asp Ser Val Phe Gln Thr Leu Ile Asn Ile Gly  
 115 120 125  
 Tyr Asn Ala Thr Tyr Ala Ala Lys Ser Asn Leu Lys Asn Gly Leu Lys  
 130 135 140  
 Met Val Lys Leu Leu Asp Glu Leu Leu Lys Ile Ser Val Ser Ser Asn  
 145 150 155 160  
 Gly Asp Lys Ser Thr Gln Lys Tyr Asn Glu Leu Lys Thr Val Val Asn  
 165 170 175  
 Lys Phe Asn Ala Glu Asn Ser Val Ser Val Ser Phe Lys Glu His Ser  
 180 185 190

Asn Ser Lys Ile Glu Thr Lys Lys Cys Ile Gln Thr Leu Met Lys Asn  
 195 200 205

Val Glu Thr Tyr Phe Glu Gly Val Cys Ser Glu Leu Lys Asn Lys Asn  
 210 215 220

Asp Gly Glu Tyr Glu Lys Thr Leu Thr Thr Leu Ser  
 225 230 235

<210> 599

<211> 211

<212> PRT

<213> Homo sapiens

<400> 599

Cys Lys Trp Tyr Val Asp Asn Thr Ile Asp Glu Ala Thr Val Glu Ser  
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 20 25 30

Ala Thr Gly Leu Ser Ser Glu Lys Ile Thr Lys Leu Thr Pro Glu Glu  
 35 40 45

Leu Glu Asn Leu Ala Lys Glu Ala Gln Asp Asp Ser Glu Lys Ser Lys  
 50 55 60

Lys Glu Ile Glu Asp Gln Lys Asn Thr Lys Glu Ser Lys Asn Ile Glu  
 65 70 75 80

Val Lys Asp Thr Pro Arg Leu Ile Lys Leu Ile Lys Asn Ser Ser Glu  
 85 90 95

Lys Ile Asp Ser Val Phe Gln Thr Leu Ile Asn Ile Gly Tyr Asn Ala  
 100 105 110

Thr Tyr Ala Ala Lys Ser Asn Leu Lys Asn Gly Leu Lys Met Val Lys  
 115 120 125

Leu Leu Asp Glu Leu Leu Lys Ile Ser Val Ser Ser Asn Gly Asp Lys  
 130 135 140

Ser Thr Gln Lys Tyr Asn Glu Leu Lys Thr Val Val Asn Lys Phe Asn  
 145 150 155 160

Ala Glu Asn Ser Val Ser Val Ser Phe Lys Glu His Ser Asn Ser Lys  
 165 170 175

Ile Glu Thr Lys Lys Cys Ile Gln Thr Leu Met Lys Asn Val Glu Thr  
 180 185 190

Tyr Phe Glu Gly Val Cys Ser Glu Leu Lys Asn Lys Asn Asp Gly Glu  
 195 200 205

Tyr Glu Lys  
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 <211> 384  
 <212> DNA  
 <213> Homo sapiens

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 <212> DNA  
 <213> Homo sapiens

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<210> 602  
 <211> 127  
 <212> PRT  
 <213> Homo sapiens

<400> 602  
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 Arg Leu Asn Gln Arg Asn Ile Asn Glu Leu Lys Ile Phe Val Glu Lys  
 35 40 45  
 Ala Lys Tyr Tyr Ser Ile Lys Leu Asp Ala Ile Tyr Asn Glu Cys Thr  
 50 55 60  
 Gly Ala Tyr Asn Asp Ile Met Thr Tyr Ser Glu Gly Thr Phe Ser Asp  
 65 70 75 80  
 Gln Ser Lys Val Asn Gln Ala Ile Ser Ile Phe Lys Lys Asp Asn Lys  
 85 90 95  
 Ile Val Asn Lys Phe Lys Glu Leu Glu Lys Ile Ile Glu Glu Tyr Lys  
 100 105 110  
 Pro Met Phe Leu Ser Lys Leu Ile Asp Asp Phe Ala Gly Ser Val  
 115 120 125

<210> 603  
 <211> 95

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 603

Cys Asp Val Ser Arg Leu Asn Gln Arg Asn Ile Asn Glu Leu Lys Ile  
 1 5 10 15

Phe Val Glu Lys Ala Lys Tyr Tyr Ser Ile Lys Leu Asp Ala Ile Tyr  
 20 25 30

Asn Glu Cys Thr Gly Ala Tyr Asn Asp Ile Met Thr Tyr Ser Glu Gly  
 35 40 45

Thr Phe Ser Asp Gln Ser Lys Val Asn Gln Ala Ile Ser Ile Phe Lys  
 50 55 60

Lys Asp Asn Lys Ile Val Asn Lys Phe Lys Glu Leu Glu Lys Ile Ile  
 65 70 75 80

Glu Glu Tyr Lys Pro Met Phe Leu Ser Lys Leu Ile Asp Asp Phe  
 85 90 95

&lt;210&gt; 604

&lt;211&gt; 783

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 604

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 tctgataaag agaaatcaaa atccaacatg gaagcaagct ctaaagaaga agatccaaat 180  
 aaaaaaataa aaaatacact gcttaatgat ttaataaatt tgatagaaat agctaattgag 240  
 cataaagaaa aatatgaaaa aagaatgcaa gaagaacctt cagatcaata cggaatattg 300  
 gctttccagg aattagactt gtccgttggg aaaatatctg aagacacccc gcaatctaaa 360  
 aaatttagaa aaaacaccta ttctccctta agcgctattg atgtcaataa attaaaagat 420  
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 aaagaaactt tctcaaaaat gctaaatcaa cttttattag attataaaaa tgataaagat 660  
 catatacgaa cagagacaaa taaacttaaa tctcatacaa ctgcactttt cgaacaactt 720  
 gataaaaaag aagacgaagc atatgaacct aaaaatcaga tatttttcaat aagtaacctt 780  
 taa 783

&lt;210&gt; 605

&lt;211&gt; 685

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 605

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 tacactgctt aatgatttaa taaatttgat agaaatagct aatgagcata aagaaaaata 180  
 tgaaaaaaga atgcaagaag aaccttcaga tcaatacgga atattggctt tccaggaatt 240  
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 aagaaattcg ggccaaatac aagggtttatt taatattttt aacagattcg gaggcatttt 420  
 tgacgactca cttaatcacg tatattctaa aaaagatatc ctaggggggac tagaaatttt 480  
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aaaaatgcta aatcaacttt tattagatta taaaaatgat aaagatcata tacgaacaga 600  
 gacaaataaa cttaaactct atacaactgc acttttcgaa caacttgata aaaaagaaga 660  
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<210> 606

<211> 259

<212> PRT

<213> Homo sapiens

<400> 606

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Gln Glu Asp Ile Lys Tyr Pro Ser Asp Lys Glu Lys Ser Lys Ser Asn  
 35 40 45

Met Glu Ala Ser Ser Lys Glu Glu Asp Pro Asn Lys Lys Ile Lys Asn  
 50 55 60

Thr Leu Leu Asn Asp Leu Ile Asn Leu Ile Glu Ile Ala Asn Glu His  
 65 70 75 80

Lys Glu Lys Tyr Glu Lys Arg Met Gln Glu Glu Pro Ser Asp Gln Tyr  
 85 90 95

Gly Ile Leu Ala Phe Gln Glu Leu Asp Leu Ser Val Gly Lys Ile Ser  
 100 105 110

Glu Asp Thr Pro Gln Ser Lys Lys Phe Arg Lys Asn Thr Tyr Ser Pro  
 115 120 125

Leu Ser Ala Ile Asp Val Asn Lys Leu Lys Asp Leu Ser Glu Ile Ile  
 130 135 140

Arg Asn Ser Gly Gln Ile Gln Gly Leu Phe Asn Ile Phe Asn Arg Phe  
 145 150 155 160

Gly Gly Ile Phe Asp Asp Ser Leu Asn His Val Tyr Ser Lys Lys Asp  
 165 170 175

Ile Leu Gly Gly Leu Glu Ile Leu Asp Leu Asp Lys Leu Lys Asn Ser  
 180 185 190

Phe Glu Lys Leu Leu Ser Ile Lys Glu Thr Phe Ser Lys Met Leu Asn  
 195 200 205

Gln Leu Leu Leu Asp Tyr Lys Asn Asp Lys Asp His Ile Arg Thr Glu  
 210 215 220

Thr Asn Lys Leu Lys Ser His Thr Thr Ala Leu Phe Glu Gln Leu Asp  
 225 230 235 240

Lys Lys Glu Asp Glu Ala Tyr Glu Pro Lys Asn Gln Ile Phe Ser Ile  
 245 250 255

Ser Asn Leu

<210> 607

<211> 228

<212> PRT

<213> Homo sapiens

<400> 607

Cys Asn Ser Asp Phe Ser Thr Asn Gln Glu Asp Ile Lys Tyr Pro Ser  
1 5 10 15

Asp Lys Glu Lys Ser Lys Ser Asn Met Glu Ala Ser Ser Lys Glu Glu  
20 25 30

Asp Pro Asn Lys Lys Ile Lys Asn Thr Leu Leu Asn Asp Leu Ile Asn  
35 40 45

Leu Ile Glu Ile Ala Asn Glu His Lys Glu Lys Tyr Glu Lys Arg Met  
50 55 60

Gln Glu Glu Pro Ser Asp Gln Tyr Gly Ile Leu Ala Phe Gln Glu Leu  
65 70 75 80

Asp Leu Ser Val Gly Lys Ile Ser Glu Asp Thr Pro Gln Ser Lys Lys  
85 90 95

Phe Arg Lys Asn Thr Tyr Ser Pro Leu Ser Ala Ile Asp Val Asn Lys  
100 105 110

Leu Lys Asp Leu Ser Glu Ile Ile Arg Asn Ser Gly Gln Ile Gln Gly  
115 120 125

Leu Phe Asn Ile Phe Asn Arg Phe Gly Gly Ile Phe Asp Asp Ser Leu  
130 135 140

Asn His Val Tyr Ser Lys Lys Asp Ile Leu Gly Gly Leu Glu Ile Leu  
145 150 155 160

Asp Leu Asp Lys Leu Lys Asn Ser Phe Glu Lys Leu Leu Ser Ile Lys  
165 170 175

Glu Thr Phe Ser Lys Met Leu Asn Gln Leu Leu Leu Asp Tyr Lys Asn  
180 185 190

Asp Lys Asp His Ile Arg Thr Glu Thr Asn Lys Leu Lys Ser His Thr  
195 200 205

Thr Ala Leu Phe Glu Gln Leu Asp Lys Lys Glu Asp Glu Ala Tyr Glu  
210 215 220

Pro Lys Asn Gln  
225

<210> 608

<211> 912

<212> DNA

<213> Homo sapiens

&lt;400&gt; 608

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taaaggagggg tatTTatgaa ataccacata attacaacta tatttgTTTT tctgTTTTta 60
gcttgCaggc cggattTTta tatcgatcaa aaagacatta aataccCGcc tactgaaaaa 120
tcaaggccca aaactgaaag ctctaagcaa aaagaatcaa agcctaaaac agaagaagag 180
cttaagaaaa aacaacaaga agaagagctt aagaaaaaac aacaagaaga agagcttaag 240
aaaaaacaac aagaagaaga gcttaagaaa aaacaacaag aagaagagaa ggaagaacta 300
agaaaacaac aactaaaaaa tacgctatct aatgatttaa aaaagcaa atagaatcgcc 360
tacaatttta aagaaaaata tgtaaaaagt atggaaaaag aacctgaaga ccattacggg 420
atgacgtctt ttaggggatt gaattggggg ccagggactg aagatatatc tgacaatacc 480
gaaagatcta taagatatag aagacacact tatactgttt taagccccct ggatcctcat 540
gaattaaagg aattcgcaaa tattattcaa gatataaata aactagcatc agtagcaagt 600
atattttaatt ctttttagcgc tattggagga gctcttgaca tagtaagtga tcacctatat 660
ttcaaaaaag acaatctaga caaactagat attgcagatt tagaaatact taaaaattca 720
tttgaacaaa tattatatat aaaaggaagt gttgcaggaa aagcaaaaaa acttttatta 780
gattataaaa atctaaaaac agatattaat aagcttaaat cttattcaaa tgaactgggt 840
aatggaatta agcaacaagc tctagaagca gaaaatctag aagagcttat agtgtcaaaa 900
tataaaacttt aa 912

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&lt;210&gt; 609

&lt;211&gt; 847

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 609

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ttgcaggccg gattTTtaata tcgatcaaaa agacattaaa taccCGccta ctgaaaaatc 60
aaggcccaaa actgaaagct ctaagcaaaa agaattcaaag cctaaaacag aagaagagct 120
taagaaaaaa caacaagaag aagagcttaa gaaaaaacia caagaagaag agcttaagaa 180
aaaacaacia gaagaagagc ttaagaaaaa acaacaagaa gaagagaagg aagaactaag 240
aaaacaacia ctaaaaaata cgctatctaa tgatttaaaa aagcaaatag aatcggccta 300
caatttttaa gaaaaatatg taaaaagtat ggaaaaagaa cctgaagacc attacgggat 360
gacgtctttt aggggattga attggggggc agggactgaa gatatatctg acaataccga 420
aagatctata agatatagaa gacacactta tactgtttta agccccctgg atcctcatga 480
attaaggaa ttcgcaata ttattcaaga tataataaaa ctagcatcag tagcaagtat 540
atttaattct tttagcgcta ttggaggagc tcttgacata gtaagtgatc acctatattt 600
caaaaaagac aatctagaca aactagatat tgcagattta gaaatactta aaaattcatt 660
tgaacaaata ttatatataa aagggaagtgt tgcaggaaaa gcaaaaaaac ttttattaga 720
ttataaaaat ctaaaaacag atattaataa gcttaaatct tattcaaatg aactgggtta 780
tggaattaag caacaagctc tagaagcaga aaatctagaa gagcttatag tgtcaaaaata 840
taaactt 847

```

&lt;210&gt; 610

&lt;211&gt; 302

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 610

```

Arg Arg Val Phe Met Lys Tyr His Ile Ile Thr Thr Ile Phe Val Phe
 1             5             10             15

Leu Phe Leu Ala Cys Arg Pro Asp Phe Asn Ile Asp Gln Lys Asp Ile
      20             25             30

Lys Tyr Pro Pro Thr Glu Lys Ser Arg Pro Lys Thr Glu Ser Ser Lys
 35             40             45

Gln Lys Glu Ser Lys Pro Lys Thr Glu Glu Glu Leu Lys Lys Lys Gln
 50             55             60

```

Gln Glu Glu Glu Leu Lys Lys Lys Gln Gln Glu Glu Glu Leu Lys Lys  
 65 70 75 80  
 Lys Gln Gln Glu Glu Glu Leu Lys Lys Lys Gln Gln Glu Glu Glu Lys  
 85 90 95  
 Glu Glu Leu Arg Lys Gln Gln Leu Lys Asn Thr Leu Ser Asn Asp Leu  
 100 105 110  
 Lys Lys Gln Ile Glu Ser Ala Tyr Asn Phe Lys Glu Lys Tyr Val Lys  
 115 120 125  
 Ser Met Glu Lys Glu Pro Glu Asp His Tyr Gly Met Thr Ser Phe Arg  
 130 135 140  
 Gly Leu Asn Trp Gly Pro Gly Thr Glu Asp Ile Ser Asp Asn Thr Glu  
 145 150 155 160  
 Arg Ser Ile Arg Tyr Arg Arg His Thr Tyr Thr Val Leu Ser Pro Leu  
 165 170 175  
 Asp Pro His Glu Leu Lys Glu Phe Ala Asn Ile Ile Gln Asp Ile Asn  
 180 185 190  
 Lys Leu Ala Ser Val Ala Ser Ile Phe Asn Ser Phe Ser Ala Ile Gly  
 195 200 205  
 Gly Ala Leu Asp Ile Val Ser Asp His Leu Tyr Phe Lys Lys Asp Asn  
 210 215 220  
 Leu Asp Lys Leu Asp Ile Ala Asp Leu Glu Ile Leu Lys Asn Ser Phe  
 225 230 235 240  
 Glu Gln Ile Leu Tyr Ile Lys Gly Ser Val Ala Gly Lys Ala Lys Lys  
 245 250 255  
 Leu Leu Leu Asp Tyr Lys Asn Leu Lys Thr Asp Ile Asn Lys Leu Lys  
 260 265 270  
 Ser Tyr Ser Asn Glu Leu Val Asn Gly Ile Lys Gln Gln Ala Leu Glu  
 275 280 285  
 Ala Glu Asn Leu Glu Glu Leu Ile Val Ser Lys Tyr Lys Leu  
 290 295 300  
 <210> 611  
 <211> 282  
 <212> PRT  
 <213> Homo sapiens  
 <400> 611  
 Cys Arg Pro Asp Phe Asn Ile Asp Gln Lys Asp Ile Lys Tyr Pro Pro  
 1 5 10 15  
 Thr Glu Lys Ser Arg Pro Lys Thr Glu Ser Ser Lys Gln Lys Glu Ser  
 20 25 30

Lys Pro Lys Thr Glu Glu Glu Leu Lys Lys Lys Gln Gln Glu Glu Glu  
                   35                                  40                                  45  
 Leu Lys Lys Lys Gln Gln Glu Glu Glu Leu Lys Lys Lys Gln Gln Glu  
           50                                  55                                  60  
 Glu Glu Leu Lys Lys Lys Gln Gln Glu Glu Glu Lys Glu Glu Leu Arg  
   65                                  70                                  75                                  80  
 Lys Gln Gln Leu Lys Asn Thr Leu Ser Asn Asp Leu Lys Lys Gln Ile  
                                   85                                  90                                  95  
 Glu Ser Ala Tyr Asn Phe Lys Glu Lys Tyr Val Lys Ser Met Glu Lys  
                                   100                                  105                                  110  
 Glu Pro Glu Asp His Tyr Gly Met Thr Ser Phe Arg Gly Leu Asn Trp  
                                   115                                  120                                  125  
 Gly Pro Gly Thr Glu Asp Ile Ser Asp Asn Thr Glu Arg Ser Ile Arg  
                                   130                                  135                                  140  
 Tyr Arg Arg His Thr Tyr Thr Val Leu Ser Pro Leu Asp Pro His Glu  
   145                                  150                                  155                                  160  
 Leu Lys Glu Phe Ala Asn Ile Ile Gln Asp Ile Asn Lys Leu Ala Ser  
                                   165                                  170                                  175  
 Val Ala Ser Ile Phe Asn Ser Phe Ser Ala Ile Gly Gly Ala Leu Asp  
                                   180                                  185                                  190  
 Ile Val Ser Asp His Leu Tyr Phe Lys Lys Asp Asn Leu Asp Lys Leu  
                                   195                                  200                                  205  
 Asp Ile Ala Asp Leu Glu Ile Leu Lys Asn Ser Phe Glu Gln Ile Leu  
                                   210                                  215                                  220  
 Tyr Ile Lys Gly Ser Val Ala Gly Lys Ala Lys Lys Leu Leu Leu Asp  
   225                                  230                                  235                                  240  
 Tyr Lys Asn Leu Lys Thr Asp Ile Asn Lys Leu Lys Ser Tyr Ser Asn  
                                   245                                  250                                  255  
 Glu Leu Val Asn Gly Ile Lys Gln Gln Ala Leu Glu Ala Glu Asn Leu  
                                   260                                  265                                  270  
 Glu Glu Leu Ile Val Ser Lys Tyr Lys Leu  
                                   275                                  280

&lt;210&gt; 612

&lt;211&gt; 828

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 612

taaagaaaga ttaaatcata ttcaaggaga gtatttatga aacactatat aattgtgcat 60  
 atatttgttt ttctattttt aaatgcttgt tatccagttg catctaataa aatagaatta 120  
 aaacctaataa cagaacaag cttaaataca gaagaagtcc caaatcaaga agcaaactac 180  
 aaagaagaaa agaagcaaa agaagaaggc attaataaaa aaacagaaaa cagctgctt 240

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aatgatttaa gaaatttaaat agaaacagct aaaaaagata atgataaata tacacaaaag 300
ttaaagaag aatcctcaag ccaatacga atactggctt tcaaagattt gttctggcta 360
gatggaacaa atgaacaatt gtccgcaa atccgaaagat ctaaagccta tagaaaacga 420
gctttagca tcttaaatac tattaatgac gcttccttaa agaatttttc agaaattgta 480
atggcatcag gacaaacaca gggcatatatt aataccctta actcacttgg gggtaatttt 540
gaaaagatag ttaattgttt gtatcccaaa aaagacaatt tggaaaaatt agagacttca 600
gttttaaaaa agcttaaaga ttctttggaa aatttttttag agataaaaaa aatcgcttca 660
gaaatgatgc acaagctctt attagactat caaaataata caaatcgat acaaacagat 720
aaaaatgaac ttaagtctta tgcagacaca cttttcaatc aaatgacaaa aaaacccgaa 780
gaagcactaa agctaaaaaa taccatattgc tcaatagagg acctttaa 828

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&lt;210&gt; 613

&lt;211&gt; 706

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 613

```

ttgttatcca gttgcatcta ataaaataga attaaaacct aaaacagaaa caagcttaaa 60
tcaagaagaa gtcccaaatt aagaagcaaa ctacaaagaa gaaaaagaag caaaagaaga 120
aggcattaat aaaaaaacag aaaacacgct gcttaatgat ttaagaaatt taatagaaac 180
agctaaaaaa gataatgata aatatacaca aaagttaaaa gaagaatcct caagccaata 240
cggaatactg gctttcaaag atttggtctg gctagatgga acaaatgaac aattgtccgc 300
aaataccgaa agatctaaag cctatagaaa acgagcttat agcatcttaa atactattaa 360
tgacgcttcc ttaaagaatt tttcagaaat tgtaatggca tcaggacaaa cacagggcat 420
atttaatacc cttaactcac ttgggggttaa ttttgaaaag atagttaatt gtttgatatcc 480
caaaaaagac aatttggaag aattagagac ttcagtttta aaaaagctta aagattcttt 540
ggaaaatttt ttagagataa aaaaaatcgc ctacagaaatg atgcacaagc tcttattaga 600
ctatcaaaat aatacaaatt gtatacaaac agataaaaat gaacttaagt cttatgcaga 660
cacacttttc aatcaaatga caaaaaaacc cgaagaagca ctaag 706

```

&lt;210&gt; 614

&lt;211&gt; 274

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 614

```

Arg Lys Ile Lys Ser Tyr Ser Arg Arg Val Phe Met Lys His Tyr Ile
  1              5              10              15

```

```

Ile Val His Ile Phe Val Phe Leu Phe Leu Asn Ala Cys Tyr Pro Val
      20              25              30

```

```

Ala Ser Asn Lys Ile Glu Leu Lys Pro Lys Thr Glu Thr Ser Leu Asn
    35              40              45

```

```

Gln Glu Glu Val Pro Asn Gln Glu Ala Asn Tyr Lys Glu Glu Lys Glu
    50              55              60

```

```

Ala Lys Glu Glu Gly Ile Asn Lys Lys Thr Glu Asn Thr Leu Leu Asn
    65              70              75              80

```

```

Asp Leu Arg Asn Leu Ile Glu Thr Ala Lys Lys Asp Asn Asp Lys Tyr
      85              90              95

```

```

Thr Gln Lys Leu Lys Glu Glu Ser Ser Ser Gln Tyr Gly Ile Leu Ala
    100              105              110

```

```

Phe Lys Asp Leu Phe Trp Leu Asp Gly Thr Asn Glu Gln Leu Ser Ala

```



115                      120                      125  
 Asn Thr Glu Arg Ser Lys Ala Tyr Arg Lys Arg Ala Tyr Ser Ile Leu  
     130                      135                      140  
 Asn Thr Ile Asn Asp Ala Ser Leu Lys Asn Phe Ser Glu Ile Val Met  
     145                      150                      155                      160  
 Ala Ser Gly Gln Thr Gln Gly Ile Phe Asn Thr Leu Asn Ser Leu Gly  
                     165                      170                      175  
 Gly Asn Phe Glu Lys Ile Val Asn Cys Leu Tyr Pro Lys Lys Asp Asn  
                     180                      185                      190  
 Leu Glu Lys Leu Glu Thr Ser Val Leu Lys Lys Leu Lys Asp Ser Leu  
                     195                      200                      205  
 Glu Asn Phe Leu Glu Ile Lys Lys Ile Ala Ser Glu Met Met His Lys  
                     210                      215                      220  
 Leu Leu Leu Asp Tyr Gln Asn Asn Thr Asn Arg Ile Gln Thr Asp Lys  
     225                      230                      235                      240  
 Asn Glu Leu Lys Ser Tyr Ala Asp Thr Leu Phe Asn Gln Met Thr Lys  
                     245                      250                      255  
 Lys Pro Glu Glu Ala Leu Lys Leu Lys Asn Thr Ile Cys Ser Ile Glu  
                     260                      265                      270  
 Asp Leu

<210> 615  
 <211> 235  
 <212> PRT  
 <213> Homo sapiens

<400> 615  
 Cys Tyr Pro Val Ala Ser Asn Lys Ile Glu Leu Lys Pro Lys Thr Glu  
     1                      5                      10                      15  
 Thr Ser Leu Asn Gln Glu Glu Val Pro Asn Gln Glu Ala Asn Tyr Lys  
                     20                      25                      30  
 Glu Glu Lys Glu Ala Lys Glu Glu Gly Ile Asn Lys Lys Thr Glu Asn  
                     35                      40                      45  
 Thr Leu Leu Asn Asp Leu Arg Asn Leu Ile Glu Thr Ala Lys Lys Asp  
                     50                      55                      60  
 Asn Asp Lys Tyr Thr Gln Lys Leu Lys Glu Glu Ser Ser Ser Gln Tyr  
     65                      70                      75                      80  
 Gly Ile Leu Ala Phe Lys Asp Leu Phe Trp Leu Asp Gly Thr Asn Glu  
                     85                      90                      95  
 Gln Leu Ser Ala Asn Thr Glu Arg Ser Lys Ala Tyr Arg Lys Arg Ala  
                     100                      105                      110

Tyr Ser Ile Leu Asn Thr Ile Asn Asp Ala Ser Leu Lys Asn Phe Ser  
 115 120 125

Glu Ile Val Met Ala Ser Gly Gln Thr Gln Gly Ile Phe Asn Thr Leu  
 130 135 140

Asn Ser Leu Gly Gly Asn Phe Glu Lys Ile Val Asn Cys Leu Tyr Pro  
 145 150 155 160

Lys Lys Asp Asn Leu Glu Lys Leu Glu Thr Ser Val Leu Lys Lys Leu  
 165 170 175

Lys Asp Ser Leu Glu Asn Phe Leu Glu Ile Lys Lys Ile Ala Ser Glu  
 180 185 190

Met Met His Lys Leu Leu Leu Asp Tyr Gln Asn Asn Thr Asn Arg Ile  
 195 200 205

Gln Thr Asp Lys Asn Glu Leu Lys Ser Tyr Ala Asp Thr Leu Phe Asn  
 210 215 220

Gln Met Thr Lys Lys Pro Glu Glu Ala Leu Lys  
 225 230 235

<210> 616

<211> 696

<212> DNA

<213> Homo sapiens

<400> 616

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taatctatac taattgagga gaatattttt atgaaaaaca acataatttt atgcatgtgt 60
gtttttttac ttttaaatac ctgcaccgct aaccatgaag ctgaagcgaa aataaaaaaa 120
catgttgata aaacaaaaaa cgaatatatt aatgaaataa aaaatttaac agcaacaacc 180
aaagaaatca tcgaaaaacg aaaattgcta caagctaaac cagtagatca aaaccccgta 240
gatgatacaa acaataagaa agttttcgag atagataaaa gagctttcga ttttataaat 300
agttttttta cagatgatga atttaataaa tttgtaacaa tatttcataa accaactacta 360
aaatcaccgg gaaaagtatt aaatagcata gcaattctag agctaaacat agagcaggta 420
attaatcacc tagactcaaa aaatgagacc ttaaataaag caagctcttt agatttgga 480
aagatcaaaa attcccttga acagctgttc tctataagga attttttttc aacaatcata 540
aaaaggtctt tattagatca tcaaaacaat gaaaattcta taaaaccaga tgattctaaa 600
tcaggaacct atttcgatac gatatacgat cagtttaatg aaaaaataa agagggttaga 660
aatctgaaaa aaacatatt atcactgccg aattaa 696

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<210> 617

<211> 592

<212> DNA

<213> Homo sapiens

<400> 617

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ctgcaccgct aaccatgaag ctgaagcgaa aataaaaaaa catgttgata aaacaaaaaa 60
cgaatatatt aatgaaataa aaaatttaac agcaacaacc aaagaaatca tcgaaaaacg 120
aaaattgcta caagctaaac cagtagatca aaaccccgta gatgatacaa acaataagaa 180
agttttcgag atagataaaa gagctttcga ttttataaat agttttttta cagatgatga 240
atttaataaa tttgtaacaa tatttcataa accaactacta aaatcaccgg gaaaagtatt 300
aaatagcata gcaattctag agctaaacat agagcaggta attaatcacc tagactcaaa 360
aaatgagacc ttaaataaag caagctcttt agatttgga aagatcaaaa attcccttga 420
acagctgttc tctataagga attttttttc aacaatcata aaaaggtctt tattagatca 480

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tcaaaacaat gaaaattcta taaaaccaga tgattctaaa tcaggaacct atttcgatac 540  
 gatatacgat cagtttaatg aaaaaaataa agagggttaga aatctgaaaa aa 592

<210> 618

<211> 230

<212> PRT

<213> Homo sapiens

<400> 618

Ser Ile Leu Ile Glu Glu Asn Ile Phe Met Lys Asn Asn Ile Ile Leu  
 1 5 10 15

Cys Met Cys Val Phe Leu Leu Leu Asn Ser Cys Thr Ala Asn His Glu  
 20 25 30

Ala Glu Ala Lys Ile Lys Lys His Val Asp Lys Thr Lys Asn Glu Tyr  
 35 40 45

Ile Asn Glu Ile Lys Asn Leu Ile Ala Thr Thr Lys Glu Ile Ile Glu  
 50 55 60

Lys Arg Lys Leu Leu Gln Ala Lys Pro Val Asp Gln Asn Pro Val Asp  
 65 70 75 80

Asp Thr Asn Asn Lys Lys Val Phe Glu Ile Asp Lys Arg Ala Phe Asp  
 85 90 95

Phe Ile Asn Ser Phe Leu Thr Asp Asp Glu Phe Asn Lys Phe Val Thr  
 100 105 110

Ile Phe His Lys Pro Thr Leu Lys Ser Pro Gly Lys Val Leu Asn Ser  
 115 120 125

Ile Ala Ile Leu Glu Leu Asn Ile Glu Gln Val Ile Asn His Leu Asp  
 130 135 140

Ser Lys Asn Glu Thr Leu Asn Lys Ala Ser Ser Leu Asp Leu Glu Lys  
 145 150 155 160

Ile Lys Asn Ser Leu Glu Gln Leu Phe Ser Ile Arg Asn Phe Phe Ser  
 165 170 175

Thr Ile Ile Lys Arg Val Leu Leu Asp His Gln Asn Asn Glu Asn Ser  
 180 185 190

Ile Lys Pro Asp Asp Ser Lys Ser Gly Thr Tyr Phe Asp Thr Ile Tyr  
 195 200 205

Asp Gln Phe Asn Glu Lys Asn Lys Glu Val Arg Asn Leu Lys Lys Thr  
 210 215 220

Ile Leu Ser Leu Pro Asn  
 225 230

<210> 619

<211> 197

<212> PRT

<213> Homo sapiens

&lt;400&gt; 619

Cys Thr Ala Asn His Glu Ala Glu Ala Lys Ile Lys Lys His Val Asp  
 1 5 10 15

Lys Thr Lys Asn Glu Tyr Ile Asn Glu Ile Lys Asn Leu Ile Ala Thr  
 20 25 30

Thr Lys Glu Ile Ile Glu Lys Arg Lys Leu Leu Gln Ala Lys Pro Val  
 35 40 45

Asp Gln Asn Pro Val Asp Asp Thr Asn Asn Lys Lys Val Phe Glu Ile  
 50 55 60

Asp Lys Arg Ala Phe Asp Phe Ile Asn Ser Phe Leu Thr Asp Asp Glu  
 65 70 75 80

Phe Asn Lys Phe Val Thr Ile Phe His Lys Pro Thr Leu Lys Ser Pro  
 85 90 95

Gly Lys Val Leu Asn Ser Ile Ala Ile Leu Glu Leu Asn Ile Glu Gln  
 100 105 110

Val Ile Asn His Leu Asp Ser Lys Asn Glu Thr Leu Asn Lys Ala Ser  
 115 120 125

Ser Leu Asp Leu Glu Lys Ile Lys Asn Ser Leu Glu Gln Leu Phe Ser  
 130 135 140

Ile Arg Asn Phe Phe Ser Thr Ile Ile Lys Arg Val Leu Leu Asp His  
 145 150 155 160

Gln Asn Asn Glu Asn Ser Ile Lys Pro Asp Asp Ser Lys Ser Gly Thr  
 165 170 175

Tyr Phe Asp Thr Ile Tyr Asp Gln Phe Asn Glu Lys Asn Lys Glu Val  
 180 185 190

Arg Asn Leu Lys Lys  
 195

&lt;210&gt; 620

&lt;211&gt; 588

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 620

taaaggagag tattaatgaa atgccatata attgcaacta tatttgtttt tctattttta 60  
 gcttgagta cagattttta tactgatcaa aaaggcatta aatacccgcc taccgaaaaa 120  
 tcaaagccca aaactgaaga ctctaagcaa aaagaattaa agcctaaaac agaaaaagaa 180  
 ctaaagaaaa aacaacaact aaaaaataaa ctacttaatg atttaaaaaa ttcaatagaa 240  
 acagctaata agcataaaga aaagtataaa aaaagaatga aagaagaacc cgaagatcaa 300  
 tacgggggtac aggctttcaa aggatcgaat tggggggccgg ggactgaaga tgtatctgcc 360  
 aacaccgaaa gatctataag atttagaaga catacttata ctattttaag cagctgagat 420  
 cttcatgaat taaaggaatt ctcaaataatt gttacaaatg aaaataaaact ggtgccagta 480  
 gtagatatgt ttaatttctt tagctctatt gggacagctc ttgatataac aaccgatagc 540  
 ttatatccca aaaagacaat ctggacaaac cagatctgtc ggatttag 588

<210> 621  
 <211> 520  
 <212> DNA  
 <213> Homo sapiens

<400> 621  
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 aaagcccaaa actgaagact ctaagcaaaa agaattaaag cctaaaacag aaaaagaact 120  
 aaagaaaaaa caacaactaa aaaataaaact acttaatgat ttaaaaaatt caatagaaac 180  
 agctaataag cataaagaaa agtataaaaa aagaatgaaa gaagaaccg aagatcaata 240  
 cggggtacag gctttcaaag gatcgaattg ggggccgggg actgaagatg tatctgcaa 300  
 caccgaaga tctataagat ttagaagaca tacttatact attttaagca cgctgagtct 360  
 tcatgaatta aaggaattct caaatattgt tacaaatgaa aataaactgg tgccagtagt 420  
 agatatgttt aatttcttta gctctattgg gacagctctt gatataacaa ccgatagctt 480  
 atatcccaaa aagacaatct ggacaaacca gatctgtcgg 520

<210> 622  
 <211> 194  
 <212> PRT  
 <213> Homo sapiens

<400> 622  
 Arg Arg Val Leu Met Lys Cys His Ile Ile Ala Thr Ile Phe Val Phe  
 1 5 10 15  
 Leu Phe Leu Ala Cys Ser Thr Asp Phe Asn Thr Asp Gln Lys Gly Ile  
 20 25 30  
 Lys Tyr Pro Pro Thr Glu Lys Ser Lys Pro Lys Thr Glu Asp Ser Lys  
 35 40 45  
 Gln Lys Glu Leu Lys Pro Lys Thr Glu Lys Glu Leu Lys Lys Lys Gln  
 50 55 60  
 Gln Leu Lys Asn Lys Leu Leu Asn Asp Leu Lys Asn Ser Ile Glu Thr  
 65 70 75 80  
 Ala Asn Lys His Lys Glu Lys Tyr Lys Lys Arg Met Lys Glu Glu Pro  
 85 90 95  
 Glu Asp Gln Tyr Gly Val Gln Ala Phe Lys Gly Ser Asn Trp Gly Pro  
 100 105 110  
 Gly Thr Glu Asp Val Ser Ala Asn Thr Glu Arg Ser Ile Arg Phe Arg  
 115 120 125  
 Arg His Thr Tyr Thr Ile Leu Ser Thr Leu Ser Leu His Glu Leu Lys  
 130 135 140  
 Glu Phe Ser Asn Ile Val Thr Asn Glu Asn Lys Leu Val Pro Val Val  
 145 150 155 160  
 Asp Met Phe Asn Phe Phe Ser Ser Ile Gly Thr Ala Leu Asp Ile Thr  
 165 170 175  
 Thr Asp Ser Leu Tyr Pro Lys Lys Thr Ile Trp Thr Asn Gln Ile Cys  
 180 185 190

Arg Ile

&lt;210&gt; 623

&lt;211&gt; 173

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 623

Cys Ser Thr Asp Phe Asn Thr Asp Gln Lys Gly Ile Lys Tyr Pro Pro  
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Thr Glu Lys Ser Lys Pro Lys Thr Glu Asp Ser Lys Gln Lys Glu Leu  
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Lys Pro Lys Thr Glu Lys Glu Leu Lys Lys Lys Gln Gln Leu Lys Asn  
 35 40 45

Lys Leu Leu Asn Asp Leu Lys Asn Ser Ile Glu Thr Ala Asn Lys His  
 50 55 60

Lys Glu Lys Tyr Lys Lys Arg Met Lys Glu Glu Pro Glu Asp Gln Tyr  
 65 70 75 80

Gly Val Gln Ala Phe Lys Gly Ser Asn Trp Gly Pro Gly Thr Glu Asp  
 85 90 95

Val Ser Ala Asn Thr Glu Arg Ser Ile Arg Phe Arg Arg His Thr Tyr  
 100 105 110

Thr Ile Leu Ser Thr Leu Ser Leu His Glu Leu Lys Glu Phe Ser Asn  
 115 120 125

Ile Val Thr Asn Glu Asn Lys Leu Val Pro Val Val Asp Met Phe Asn  
 130 135 140

Phe Phe Ser Ser Ile Gly Thr Ala Leu Asp Ile Thr Thr Asp Ser Leu  
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Tyr Pro Lys Lys Thr Ile Trp Thr Asn Gln Ile Cys Arg  
 165 170

&lt;210&gt; 624

&lt;211&gt; 690

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 624

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 ttagaaagtt cagaacaaaa tgtaaaaaaa acagaacaag agataaaaaa acaagttgaa 180  
 ggatttttag aaatttttaga gacaaaagat ttaaacacat tagatacaaa agaaattgaa 240  
 aaacaaattc aagaattaaa gaataagata gaaaaattag actctaaaaa aacttctatt 300  
 gaaacatatt ctgggtatga agaaaaaata aacaaaataa aagaaaaatt aaacggaaaa 360  
 ggacttgaag ataaattaaa tgaactttca gagagcttaa aaaagaaaaa agaggagaga 420  
 aaaaaagctt tacaagaggc taaaaagaaa tttgaagagt ataaaaacca agctgaatct 480  
 gcaactggag taacgcatgg ttctcaagtc caaagacaag gtggtgttgg attacaagct 540  
 tggcagtgtg ctaatagttt ggggtttaaa aatatgacta gtggttaataa tactagcgat 600

atgaccaatg aagttataac taattcgctt aaaaagattg aagaagaact taaaaatatt 660  
 ggagaaactg tagaaggtaa aaaagaataa 690

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<211> 616

<212> DNA

<213> Homo sapiens

<400> 625

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 aatttttagag acaaaaagatt taaacacatt agatacaaaa gaaattgaaa aacaaattca 180  
 agaattaaag aataagatag aaaaattaga ctctaaaaaa acttctattg aaacatattc 240  
 tgggtatgaa gaaaaaataa acaaaataaa agaaaaatta aacggaaaag gacttgaaga 300  
 taaattaaat gaactttcag agagcttaaa aaagaaaaaa gagagagaaa aaaaagcttt 360  
 acaagaggct aaaaagaaat ttgaagagta taaaaaccaa gctgaatctg caactggagt 420  
 aacgcattggt tctcaagtcc aaagacaagg tgggtgttga ttacaagctt ggcagtgtgc 480  
 taatagtttg gggtttaaaa atatgactag tggtaataat actagcgata tgaccaatga 540  
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 agaaggtaaa aaagaa 616

<210> 626

<211> 228

<212> PRT

<213> Homo sapiens

<400> 626

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 Leu Glu Gly Ala Val Lys Asp Leu Glu Ser Ser Glu Gln Asn Val Lys  
 35 40 45  
 Lys Thr Glu Gln Glu Ile Lys Lys Gln Val Glu Gly Phe Leu Glu Ile  
 50 55 60  
 Leu Glu Thr Lys Asp Leu Asn Thr Leu Asp Thr Lys Glu Ile Glu Lys  
 65 70 75 80  
 Gln Ile Gln Glu Leu Lys Asn Lys Ile Glu Lys Leu Asp Ser Lys Lys  
 85 90 95  
 Thr Ser Ile Glu Thr Tyr Ser Gly Tyr Glu Glu Lys Ile Asn Lys Ile  
 100 105 110  
 Lys Glu Lys Leu Asn Gly Lys Gly Leu Glu Asp Lys Leu Asn Glu Leu  
 115 120 125  
 Ser Glu Ser Leu Lys Lys Lys Lys Glu Glu Arg Lys Lys Ala Leu Gln  
 130 135 140  
 Glu Ala Lys Lys Lys Phe Glu Glu Tyr Lys Asn Gln Ala Glu Ser Ala  
 145 150 155 160  
 Thr Gly Val Thr His Gly Ser Gln Val Gln Arg Gln Gly Gly Val Gly

	165		170		175
Leu Gln Ala Trp	Gln Cys Ala Asn Ser	Leu Gly Phe Lys	Asn Met Thr		
180		185	190		
Ser Gly Asn Asn Thr Ser Asp Met Thr	Asn Glu Val Ile Thr Asn Ser				
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Leu Lys Lys Ile Glu Glu Glu Leu Lys Asn Ile Gly Glu Thr Val Glu					
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Gly Lys Lys Glu					
225					
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Lys Gln Val Glu Gly Phe Leu Glu Ile Leu Glu Thr Lys Asp Leu Asn					
35	40	45			
Thr Leu Asp Thr Lys Glu Ile Glu Lys Gln Ile Gln Glu Leu Lys Asn					
50	55	60			
Lys Ile Glu Lys Leu Asp Ser Lys Lys Thr Ser Ile Glu Thr Tyr Ser					
65	70	75	80		
Gly Tyr Glu Glu Lys Ile Asn Lys Ile Lys Glu Lys Leu Asn Gly Lys					
85	90	95			
Gly Leu Glu Asp Lys Leu Asn Glu Leu Ser Glu Ser Leu Lys Lys Lys					
100	105	110			
Lys Glu Glu Arg Lys Lys Ala Leu Gln Glu Ala Lys Lys Lys Phe Glu					
115	120	125			
Glu Tyr Lys Asn Gln Ala Glu Ser Ala Thr Gly Val Thr His Gly Ser					
130	135	140			
Gln Val Gln Arg Gln Gly Gly Val Gly Leu Gln Ala Trp Gln Cys Ala					
145	150	155	160		
Asn Ser Leu Gly Phe Lys Asn Met Thr Ser Gly Asn Asn Thr Ser Asp					
165	170	175			
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<210> 628  
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 aaagaggggca atgaaaaggc aggggaagttg tttgggaagg ctggtgctaa tgctcatggg 240  
 gacagtggagg ctgctagcaa ggcggctggt gctgttagtg ctgttagtg ggagcagata 300  
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 <213> Homo sapiens

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 tcagattgct gctgctattg ctttgagggg gatggctaag gatggaaagt ttgctgtgaa 180  
 gggtaataat gagaaagaga aggctgaggg ggctattaaa gaagttagcg agttgttgga 240  
 taagctggta acagctgtaa agacagctga gggggccttca agtggtactg atgcaattgg 300  
 agaagttgtg gataatgntg cnaaggntgc tgataaggcg agtgtgacgg ggattgctaa 360  
 ggggataaag gagattgttg aagctgctng ggggagtgaa aagctgaaag ttgctgctgc 420  
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 <212> PRT

<213> Homo sapiens

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<220>

<221> SITE

<222> (382)

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<220>

<221> SITE

<222> (403)

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<222> (414)

<223> Xaa equals any of the naturally occurring L-amino acids

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<223> Xaa equals any of the naturally occurring L-amino acids

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<222> (416)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 630

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Ala	Ile	Gly	Glu	Val	Val	Asp	Asn	Asp	Ala	Lys	Val	Ala	Asp	Lys	Ala
			20					25					30		

Ser	Val	Thr	Gly	Ile	Ala	Lys	Gly	Ile	Lys	Glu	Ile	Val	Glu	Ala	Ala
		35					40					45			

Arg	Gly	Ser	Glu	Lys	Leu	Lys	Val	Ala	Ala	Ala	Lys	Glu	Gly	Asn	Glu
	50					55					60				

Lys	Ala	Gly	Lys	Leu	Phe	Gly	Lys	Ala	Gly	Ala	Asn	Ala	His	Gly	Asp
65					70				75					80	

Ser	Glu	Ala	Ala	Ser	Lys	Ala	Ala	Gly	Ala	Val	Ser	Ala	Val	Ser	Gly
				85					90					95	

Glu	Gln	Ile	Leu	Ser	Ala	Ile	Val	Lys	Ala	Ala	Asp	Ala	Ala	Glu	Gln
			100					105						110	

Asp	Gly	Lys	Lys	Pro	Ala	Asp	Ala	Thr	Asn	Pro	Ile	Ala	Ala	Ala	Ile
		115					120					125			

Gly	Asn	Lys	Asp	Glu	Asp	Ala	Asp	Phe	Gly	Asp	Gly	Met	Lys	Lys	Asp
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

130	135	140
Asp Gln Ile Ala Ala Ala Ile Ala Leu Arg Gly Met Ala Lys Asp Gly 145 150 155 160		
Lys Phe Ala Val Lys Asn Asp Glu Lys Gly Lys Ala Glu Gly Ala Ile 165 170 175		
Lys Gly Ala Ala Ala Ile Gly Glu Val Val Asp Asn Ala Gly Ala Ala 180 185 190		
Lys Ala Ala Asp Lys Asp Ser Val Lys Gly Ile Ala Lys Gly Ile Lys 195 200 205		
Glu Ile Val Glu Ala Ala Gly Gly Ser Glu Lys Leu Lys Ala Ala Ala 210 215 220		
Ala Glu Gly Glu Asn Asn Lys Lys Ala Gly Lys Leu Phe Gly Lys Val 225 230 235 240		
Asp Gly Ala Ala Gly Asp Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala 245 250 255		
Val Ser Ala Val Ser Gly Glu Gln Ile Leu Ser Ala Ile Val Lys Ala 260 265 270		
Ala Gly Glu Ala Glu Gln Asp Gly Glu Lys Pro Glu Asp Ala Lys Asn 275 280 285		
Pro Ile Ala Ala Ala Ile Gly Lys Gly Asn Gly Asp Gly Ala Glu Phe 290 295 300		
Asp Gln Asp Glu Met Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala 305 310 315 320		
Leu Arg Gly Met Ala Lys Asp Gly Lys Phe Ala Val Lys Gly Asn Asn 325 330 335		
Glu Lys Glu Lys Ala Glu Gly Ala Ile Lys Glu Val Ser Glu Leu Leu 340 345 350		
Asp Lys Leu Val Thr Ala Val Lys Thr Ala Glu Gly Ala Ser Ser Gly 355 360 365		
Thr Asp Ala Ile Gly Glu Val Val Asp Asn Xaa Ala Lys Xaa Ala Asp 370 375 380		
Lys Ala Ser Val Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu 385 390 395 400		
Ala Ala Xaa Gly Ser Glu Lys Leu Lys Val Ala Ala Ala Xaa Xaa Xaa 405 410 415		
Asn Asn Lys Glu Ala Gly Lys Leu Phe Gly Lys Ala Gly Ala Asp Ala 420 425 430		
Asn Gly Asp Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala Val Ser Ala 435 440 445		

Val Ser Gly Glu Gln Ile Leu Ser Ala Ile Val Lys Ala Ala Ala Ala  
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 Gly Ala Ala Asp Gln Asp Gly Glu Lys Pro Gly Asp Ala Lys Asn Pro  
 465 470 475 480  
 Ile Ala Ala Ala Ile Gly Lys Gly Asn Ala Asp Asp Gly Ala Asp Phe  
 485 490 495  
 Gly Asp Gly Met Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala Leu  
 500 505 510  
 Arg Gly Met Ala Lys Asp Gly Lys Phe Ala Val Lys Lys Asp Glu Lys  
 515 520 525  
 Gly Lys Ala Glu Gly Ala Ile Lys Gly Ala Ser Glu Leu Leu Asp Lys  
 530 535 540  
 Leu Val Lys Ala Val Lys Thr Ala Glu Gly Ala Ser Ser Gly Thr Ala  
 545 550 555 560  
 Ala Ile Gly Glu Val Val Asp Asn Ala Ala Lys Ala Ala Asp Lys Asp  
 565 570 575  
 Ser Val Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu Ala Ala  
 580 585 590  
 Gly Gly Ser Glu Lys Leu Lys Val Ala Ala Ala Lys Gly Glu Asn Asn  
 595 600 605  
 Lys Gly Ala Gly Lys Leu Phe Gly Lys Ala Gly Ala Asn Ala His Gly  
 610 615 620  
 Asp Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala Val Ser Ala Val Ser  
 625 630 635 640  
 Gly Glu Gln Ile Leu Ser Ala Ile Val Lys Ala Ala Gly Glu Ala Ala  
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 Gly Asp Gln Glu Gly Lys Lys Pro Glu Glu Ala Lys Asn Pro Ile Ala  
 660 665 670  
 Ala Ala Ile Gly Asp Lys Asp Gly Asp Ala Glu Phe Asn Gln Asp Gly  
 675 680 685  
 Met Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala Leu Arg Gly Met  
 690 695 700  
 Ala Lys Asp Gly Lys Phe Ala Val Lys Asp Gly Gly Glu Lys Glu Lys  
 705 710 715 720  
 Ala Glu Gly Ala Ile Lys Gly Val Ser Glu Leu Leu Asp Lys Leu Val  
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 Lys Ala Val Lys Thr Ala Glu Gly Ala Ser Ser Gly Thr Ala Ala Ile  
 740 745 750

Gly Glu Val Val Ala Asp Ala Ala Lys Val Ala Asp Lys Ala Ser Val  
 755 760 765  
 Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu Ala Ala Gly Asp  
 770 775 780  
 Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala Val Ser Ala Val Ser Gly  
 785 790 795 800  
 Glu Gln Ile Leu Ser Ala Ile Val Lys Ala Ala Ala Gly Ala Ala  
 805 810 815  
 Glu Gln Asp Gly Glu Lys Pro Ala Glu Ala Lys Asn Pro Ile Ala Ala  
 820 825 830  
 Ala Ile Gly Lys Gly Asp Gly Asp Ala Asp Phe Gly Glu Asp Gly Met  
 835 840 845  
 Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala Leu Arg Gly Met Ala  
 850 855 860  
 Lys Asp Gly Lys Phe Ala Val Lys Asn Asp Glu Lys Gly Lys Ala Glu  
 865 870 875 880  
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 Gly Ala Ala Lys Ala Ala Asp Lys Asp Ser Val Lys Gly Ile Ala Lys  
 900 905 910  
 Gly Ile Lys Glu Ile Val Glu Ala Ala Gly Gly Ser Glu Lys Leu Lys  
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 Ala Ala Ala Ala Glu Gly Glu Asn Asn Lys Lys Ala Gly Lys Leu Phe  
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 Gly Lys Val Asp Gly Ala Ala Gly Asp Ser Glu Ala Ala Ser Lys Ala  
 945 950 955 960  
 Ala Gly Ala Val Ser Ala Val Ser Gly Glu Gln Ile Leu Ser Ala Ile  
 965 970 975  
 Val Lys Ala Ala Asp Ala Ala Glu Gln Asp Gly Lys Lys Pro Ala Asp  
 980 985 990  
 Ala Thr Asn Pro Ile Ala Ala Ala Ile Gly Asn Lys Asp Glu Asp Ala  
 995 1000 1005  
 Asp Phe Gly Asp Gly Met Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile  
 1010 1015 1020  
 Ala Leu Arg Gly Met Ala Lys Asp Gly Lys Phe Ala Val Lys Gly Asn  
 1025 1030 1035 1040  
 Asn Glu Lys Gly Lys Ala Glu Gly Ala Ser Ser Gly Thr Asp Ala Ile  
 1045 1050 1055  
 Gly Glu Val Val Asp Asn Asp Ala Lys Ala Ala Asp Lys Ala Ser Val

1060	1065	1070
Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu Ala Ala Gly Gly 1075 1080 1085		
Ser Glu Lys Leu Lys Ala Val Ala Ala Ala Thr Arg Glu Asn Asn Lys 1090 1095 1100		
Glu Ala Gly Lys Leu Phe Gly Lys Val Asp Asp Ala His Ala Gly Asp 105 1110 1115 1120		
Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala Val Ser Ala Val Ser Gly 1125 1130 1135		
Glu Gln Ile Leu Ser Ala Ile Val Thr Ala Ala Ala Ala Gly Glu Gln 1140 1145 1150		
Asp Gly Glu Lys Pro Ala Glu Ala Thr Asn Pro Ile Ala Ala Ala Ile 1155 1160 1165		
Gly Lys Gly Asn Glu Asp Gly Ala Asp Phe Gly Lys Asp Glu Met Lys 1170 1175 1180		
Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala Leu Arg Gly Met Ala Lys 185 1190 1195 1200		
Asp Gly Lys Phe Ala Val Lys Ser Asn Asp Gly Glu Lys Gly Lys Ala 1205 1210 1215		
Glu Gly Ala Ile Lys Glu Val Ser Glu Leu Leu Asp Lys Leu Val Lys 1220 1225 1230		
Ala Val Lys Thr Ala Glu Gly Ala Ser Ser Gly Thr Asp Ala Ile Gly 1235 1240 1245		
Glu Val Val Ala Asn Ala Gly Ala Ala Lys Ala Ala Asp Lys Ala Ser 1250 1255 1260		
Val Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu Ala Ala Gly 265 1270 1275 1280		
Gly Ser Lys Lys Leu Lys Ala Ala Ala Ala Glu Gly Glu Asn Asn Lys 1285 1290 1295		
Lys Ala Gly Lys Leu Phe Gly Lys Ala Gly Ala Gly Ala Gly Ala Asn 1300 1305 1310		
Gly Asp Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala Val Ser Ala Gly 1315 1320 1325		

&lt;210&gt; 631

&lt;211&gt; 168

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens



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 <222> (106)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (109)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (130)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
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 <222> (141)  
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<220>  
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<220>  
 <221> SITE  
 <222> (143)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<400> 631  
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   1                  5                  10                  15  
 Ile Ala Ala Ala Ile Gly Lys Gly Asn Gly Asp Gly Ala Glu Phe Asp  
                   20                  25                  30  
 Gln Asp Glu Met Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala Leu  
   35                  40                  45  
 Arg Gly Met Ala Lys Asp Gly Lys Phe Ala Val Lys Gly Asn Asn Glu  
   50                  55                  60  
 Lys Glu Lys Ala Glu Gly Ala Ile Lys Glu Val Ser Glu Leu Leu Asp  
   65                  70                  75                  80  
 Lys Leu Val Thr Ala Val Lys Thr Ala Glu Gly Ala Ser Ser Gly Thr  
                   85                  90                  95  
 Asp Ala Ile Gly Glu Val Val Asp Asn Xaa Ala Lys Xaa Ala Asp Lys  
                   100                  105                  110  
 Ala Ser Val Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu Ala  
   115                  120                  125  
 Ala Xaa Gly Ser Glu Lys Leu Lys Val Ala Ala Ala Xaa Xaa Xaa Asn  
   130                  135                  140

Asn Lys Glu Ala Gly Lys Leu Phe Gly Lys Ala Gly Ala Asp Ala Asn  
 145 150 155 160

Gly Asp Ser Glu Ala Ala Ser Lys  
 165

<210> 632  
 <211> 1008  
 <212> DNA  
 <213> Homo sapiens

<400> 632  
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 atagaacagt ttgcattagc attaaaagat catcaagaaa ataaaaatac tactaataact 180  
 tcagtagata aaaatagtaa ggaaattgaa tctcctaaag acgttacatc atcaaatataa 240  
 aaaactttatg atccaatctt acaagtaggt tctaatacaac atatgtcaga tgatcctggg 300  
 gctaataata aagaatccct accaaattca agtcagcaa taatacaaaa tgactcgcac 360  
 gctcaaaata atgtaaagat ggaagaaaat aaatcagcta ctccacaaca tgatccaatt 420  
 gaacaaagta attttaaaaa tagccttact acaacaagta aaactcctgc tattccttca 480  
 gaagaagaaa ttaaagctaa cttagatgaa tttgcacaag aagagtatga gcaaacatct 540  
 ctttcagaaa ttaaaaatgc cagcgaattt gttaatcatg ctaatcctga aaacaaatta 600  
 aacaatacac tccttgagtt tgaaaaagat tatgaaactt tatcaaactt gttattctct 660  
 aatttagacg catctccttt gaataaaaaa ataaagacta ttatgcctaa attacaagaa 720  
 atgcgttctt ttatggagca agcaactaat tcttgggtat ctgctaaagg catgctagat 780  
 gaggctaagg ataaactagc agaattctatt tataaaagac tatacaatgg caattcatac 840  
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 gctatagact ttgcttctgc atgcattgaa tatacacaaa aagctattga ttatcttcaa 960  
 cagggaattt cttgcaaaaa agaaatagaa aatatattca agctttaa 1008

<210> 633  
 <211> 859  
 <212> DNA  
 <213> Homo sapiens

<400> 633  
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 agtaggttct aatcaacata tgtagatga tcttggtgct aataataaag aatccctacc 180  
 aaattcaagt ccagcaataa taaaaaatga ctgcgatgct caaaataatg taaagatgga 240  
 agaaaaataaa tcagctactc cacaacatga tccaattgaa caaagtaatt ttaaaaatag 300  
 ccttactaca acaagtaaaa ctctgctat tcttccagaa gaagaaatta aagctaactt 360  
 agatgaattt gcacaagaag agtatgagca aacatctctt tcagaaatta aaaatgccac 420  
 gcaaattggt aatcatgcta atcctgaaaa caaattaaac aatacactcc ttgagtttga 480  
 aaaagattat gaaactttat caaacttggt attctctaatt ttagacgcat ctcttttgaa 540  
 tagaaaaata aagactatta tgctaaatt acaagaaatg cgttctttta tggagcaagc 600  
 aactaattct tgggtatctg ctaaaggcat gctagatgag gctaaggata aactagcaga 660  
 atctatttat aaaagactat acaatggcaa ttcataccgg ttcggtggca gttttaacgg 720  
 acgtgatatg caacatgcaa aaaatttagc atacagagct atagactttg cttctgcatg 780  
 cattgaatat acacaaaaag ctattgatta tcttcaacag ggaaattctt gcaaaaaaga 840  
 aatagaaaat atattcaag 859

<210> 634  
 <211> 334  
 <212> PRT  
 <213> Homo sapiens

<400> 634

Lys Gly Asn Ile Asn Ile Met Arg Leu Cys Leu Ile Lys Ile Phe Ile  
 1 5 10 15  
 Ile Pro Asn Leu Val Phe Ser Ser Leu Phe Leu Phe Glu Ser Cys Ser  
 20 25 30  
 Gly Phe Leu Ser Lys Lys Ser Ile Glu Gln Phe Ala Leu Ala Leu Lys  
 35 40 45  
 Asp His Gln Glu Asn Lys Asn Thr Thr Asn Thr Ser Val Asp Lys Asn  
 50 55 60  
 Ser Lys Glu Ile Glu Ser Pro Lys Asp Val Thr Ser Ser Asn Lys Lys  
 65 70 75 80  
 Thr Tyr Asp Pro Ile Leu Gln Val Gly Ser Asn Gln His Met Ser Asp  
 85 90 95  
 Asp Pro Gly Ala Asn Asn Lys Glu Ser Leu Pro Asn Ser Ser Pro Ala  
 100 105 110  
 Ile Ile Gln Asn Asp Ser His Ala Gln Asn Asn Val Lys Met Glu Glu  
 115 120 125  
 Asn Lys Ser Ala Thr Pro Gln His Asp Pro Ile Glu Gln Ser Asn Phe  
 130 135 140  
 Lys Asn Ser Leu Thr Thr Thr Ser Lys Thr Pro Ala Ile Pro Ser Glu  
 145 150 155 160  
 Glu Glu Ile Lys Ala Asn Leu Asp Glu Phe Ala Gln Glu Glu Tyr Glu  
 165 170 175  
 Gln Thr Ser Leu Ser Glu Ile Lys Asn Ala Thr Gln Ile Val Asn His  
 180 185 190  
 Ala Asn Pro Glu Asn Lys Leu Asn Asn Thr Leu Leu Glu Phe Glu Lys  
 195 200 205  
 Asp Tyr Glu Thr Leu Ser Asn Leu Leu Phe Ser Asn Leu Asp Ala Ser  
 210 215 220  
 Pro Leu Asn Arg Lys Ile Lys Thr Ile Met Pro Lys Leu Gln Glu Met  
 225 230 235 240  
 Arg Ser Phe Met Glu Gln Ala Thr Asn Ser Trp Val Ser Ala Lys Gly  
 245 250 255  
 Met Leu Asp Glu Ala Lys Asp Lys Leu Ala Glu Ser Ile Tyr Lys Arg  
 260 265 270  
 Leu Tyr Asn Gly Asn Ser Tyr Arg Phe Gly Gly Ser Phe Asn Gly Arg  
 275 280 285  
 Asp Met Gln His Ala Lys Asn Leu Ala Tyr Arg Ala Ile Asp Phe Ala  
 290 295 300  
 Ser Ala Cys Ile Glu Tyr Thr Gln Lys Ala Ile Asp Tyr Leu Gln Gln

305                      310                      315                      320  
 Gly Asn Ser Cys Lys Lys Glu Ile Glu Asn Ile Phe Lys Leu  
                                  325                      330  
  
 <210> 635  
 <211> 286  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 635  
 Lys Asp His Gln Glu Asn Lys Asn Thr Thr Asn Thr Ser Val Asp Lys  
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 Asn Ser Lys Glu Ile Glu Ser Pro Lys Asp Val Thr Ser Ser Asn Lys  
                                  20                                 25                                 30  
 Lys Thr Tyr Asp Pro Ile Leu Gln Val Gly Ser Asn Gln His Met Ser  
                                  35                                 40                                 45  
 Asp Asp Pro Gly Ala Asn Asn Lys Glu Ser Leu Pro Asn Ser Ser Pro  
   50                                 55                                 60  
 Ala Ile Ile Gln Asn Asp Ser His Ala Gln Asn Asn Val Lys Met Glu  
   65                                 70                                 75                                 80  
 Glu Asn Lys Ser Ala Thr Pro Gln His Asp Pro Ile Glu Gln Ser Asn  
                                  85                                 90                                 95  
 Phe Lys Asn Ser Leu Thr Thr Thr Ser Lys Thr Pro Ala Ile Pro Ser  
                                  100                                 105                                 110  
 Glu Glu Glu Ile Lys Ala Asn Leu Asp Glu Phe Ala Gln Glu Glu Tyr  
                                  115                                 120                                 125  
 Glu Gln Thr Ser Leu Ser Glu Ile Lys Asn Ala Thr Gln Ile Val Asn  
                                  130                                 135                                 140  
 His Ala Asn Pro Glu Asn Lys Leu Asn Asn Thr Leu Leu Glu Phe Glu  
   145                                 150                                 155                                 160  
 Lys Asp Tyr Glu Thr Leu Ser Asn Leu Leu Phe Ser Asn Leu Asp Ala  
                                  165                                 170                                 175  
 Ser Pro Leu Asn Arg Lys Ile Lys Thr Ile Met Pro Lys Leu Gln Glu  
                                  180                                 185                                 190  
 Met Arg Ser Phe Met Glu Gln Ala Thr Asn Ser Trp Val Ser Ala Lys  
                                  195                                 200                                 205  
 Gly Met Leu Asp Glu Ala Lys Asp Lys Leu Ala Glu Ser Ile Tyr Lys  
                                  210                                 215                                 220  
 Arg Leu Tyr Asn Gly Asn Ser Tyr Arg Phe Gly Gly Ser Phe Asn Gly  
   225                                 230                                 235                                 240  
 Arg Asp Met Gln His Ala Lys Asn Leu Ala Tyr Arg Ala Ile Asp Phe  
                                  245                                 250                                 255

Ala Ser Ala Cys Ile Glu Tyr Thr Gln Lys Ala Ile Asp Tyr Leu Gln  
 260 265 270

Gln Gly Asn Ser Cys Lys Lys Glu Ile Glu Asn Ile Phe Lys  
 275 280 285

<210> 636

<211> 630

<212> DNA

<213> Homo sapiens

<400> 636

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gacaacaaca agtcttttaa tacttttagga agcagcaatg agagtagaag tcgcaggcct 180
agaagtacaa ataatgctta tatgaaacaa aacatagaca aaaatcattt agttgttgca 240
gatatgcaaa atgataatag tagcagcagt cttccccaac aagttaatag tgaatccagt 300
aaagctaattg aagatagtaa tattatgaag gaaattgaat cttctacaga agagtgcgct 360
agactaagaa aagattttaga aactataaaa caaatacttg ataatataga aagcttgctt 420
aatacagcta attcttattt agagaacgct agaaaagcac ctaaactctaa tcaagataat 480
caaaccttat tgcttagcct gcaccaagct attgctaagg ttaagagtag tcatacttct 540
tttatcattt gttataatga tgcatttaatt tccctgggaa tagctgatac tgcctttaa 600
gatgcaaaga gaaaggcagt tgaggcataa 630

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<210> 637

<211> 562

<212> DNA

<213> Homo sapiens

<400> 637

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tacaataat gcttatatga aacaaaacat agacaaaaat catttagttg ttgcagatat 180
gcaaatgat aatagtagca gcagctcttc ccaacaagtt aatagtgaat ccagtaaagc 240
taatgaagat agtaatatta tgaaggaaat tgaatcttct acagaagagt gcgctagact 300
aagaaaagat ttagaaacta taaaacaaat acttgataat atagaaagct tgcttaatac 360
agctaattct tatttagaga acgctagaaa agcacctaaa tctaatacaag ataatacaac 420
cttattgctt agcctgcacc aagctattgc taagggttaag agtagtcata cttcttttat 480
catttgttat aatgatgcat ttaattccct gggaatagct gatactgcct ttaaagatgc 540
aaagagaaag gcagttgagg ca 562

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<210> 638

<211> 208

<212> PRT

<213> Homo sapiens

<400> 638

Met Asn Leu Ile Ala Lys Leu Phe Ile Leu Ser Thr Leu Val Ser Ile  
 1 5 10 15

Pro Asn Ile Leu Ser Cys Asn Leu Tyr Asp Asn Leu Ala Asp Asn Ala  
 20 25 30

Glu Gln Val Thr Asp Ile Leu Asp Asn Asn Lys Ser Phe Asn Thr Leu  
 35 40 45

Gly Ser Ser Asn Glu Ser Arg Ser Arg Arg Pro Arg Ser Thr Asn Asn

50	55	60
Ala Tyr Met Lys Gln Asn Ile Asp Lys Asn His Leu Val Val Ala Asp 65 70 75 80		
Met Gln Asn Asp Asn Ser Ser Ser Ser Leu Pro Gln Gln Val Asn Ser 85 90 95		
Glu Ser Ser Lys Ala Asn Glu Asp Ser Asn Ile Met Lys Glu Ile Glu 100 105 110		
Ser Ser Thr Glu Glu Cys Ala Arg Leu Arg Lys Asp Leu Glu Thr Ile 115 120 125		
Lys Gln Ile Leu Asp Asn Ile Glu Ser Leu Leu Asn Thr Ala Asn Ser 130 135 140		
Tyr Leu Glu Asn Ala Arg Lys Ala Pro Lys Ser Asn Gln Asp Asn Gln 145 150 155 160		
Thr Leu Leu Leu Ser Leu His Gln Ala Ile Ala Lys Val Lys Ser Ser 165 170 175		
His Thr Ser Phe Ile Ile Cys Tyr Asn Asp Ala Phe Asn Ser Leu Gly 180 185 190		
Ile Ala Asp Thr Ala Phe Lys Asp Ala Lys Arg Lys Ala Val Glu Ala 195 200 205		

&lt;210&gt; 639

&lt;211&gt; 187

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 639

Cys Asn Leu Tyr Asp Asn Leu Ala Asp Asn Ala Glu Gln Val Thr Asp 1 5 10 15
Ile Leu Asp Asn Asn Lys Ser Phe Asn Thr Leu Gly Ser Ser Asn Glu 20 25 30
Ser Arg Ser Arg Arg Pro Arg Ser Thr Asn Asn Ala Tyr Met Lys Gln 35 40 45
Asn Ile Asp Lys Asn His Leu Val Val Ala Asp Met Gln Asn Asp Asn 50 55 60
Ser Ser Ser Ser Leu Pro Gln Gln Val Asn Ser Glu Ser Ser Lys Ala 65 70 75 80
Asn Glu Asp Ser Asn Ile Met Lys Glu Ile Glu Ser Ser Thr Glu Glu 85 90 95
Cys Ala Arg Leu Arg Lys Asp Leu Glu Thr Ile Lys Gln Ile Leu Asp 100 105 110

Asn Ile Glu Ser Leu Leu Asn Thr Ala Asn Ser Tyr Leu Glu Asn Ala  
 115 120 125

Arg Lys Ala Pro Lys Ser Asn Gln Asp Asn Gln Thr Leu Leu Leu Ser  
 130 135 140

Leu His Gln Ala Ile Ala Lys Val Lys Ser Ser His Thr Ser Phe Ile  
 145 150 155 160

Ile Cys Tyr Asn Asp Ala Phe Asn Ser Leu Gly Ile Ala Asp Thr Ala  
 165 170 175

Phe Lys Asp Ala Lys Arg Lys Ala Val Glu Ala  
 180 185

<210> 640

<211> 1080

<212> DNA

<213> Homo sapiens

<400> 640

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gaaacttctt	tttctgatac	tgctagcaag	attagtaagt	cgggaacagc	tgcttcttca	180
gacaaacaag	aaaaaaatac	aagtgatggt	acaggtgacg	ccaaaaagca	tactagtagc	240
ccttacatgc	ttgctgatgc	ccttattggt	agtgatacta	ctaatagaga	tagagataag	300
caagaaaata	aagataaatt	aaatgaagaa	gataaaaaaa	agcttaatgc	tttttttagc	360
acaactaaaa	catatcaatc	tagcctagat	tccatttata	acaaatatac	aggctattat	420
aataccattg	atacctatgg	cagctgtgat	acgtatcgca	ttgagtgttt	tagtgtagga	480
ccttctgaaa	aacgtaaaca	agctcttgct	gatctagaga	agttaaaact	agacgaaaag	540
tacactcagc	ttagcacaat	gttaaagagt	gctgtgccta	gttattacaa	aaaaaattta	600
gatgattcta	ttgcacagta	taaggaagcc	ataaagcagg	ctattgaagc	tgaaagtaaa	660
atagagacag	taaaagacta	tgcaacagct	caaagtgtcg	ccgatgacga	aaagaaaaga	720
aatatagata	atttaaaaaa	agttagagat	gttcttctta	ttattaaaaa	aactattgag	780
aaagccagcc	gatcttatgc	tgatgctttt	gctattgcaa	catctagctt	atcttgtagc	840
gaattttaagc	aagctgttaa	agagtttaaa	gatgctgcta	aacaatatgc	taatggaaat	900
aaaggagaca	atgctgtcaa	tgttattgta	ggcactatit	ctagtatgcc	ttatgtcaaa	960
tttaaagatg	agtttgcaag	agcaaaaatg	tttgctcgta	attatagagg	agacgaggtta	1020
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<210> 641

<211> 970

<212> DNA

<213> Homo sapiens

<400> 641

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tacaagtgat	gttacagggt	acgccaaaaa	gcatactagt	agcccttaca	tgcttgctga	180
tgcccttatt	gttagtgata	ctactaatag	agatagagat	aagcaagaaa	ataaagataa	240
attaaatgaa	gaagataaaa	aaaagcttaa	tgcttttttt	agcacaacta	aaacatatca	300
atctagccta	gattccattt	ataacaaata	tacaggctat	tataatacca	ttgataccta	360
tggcagctgt	gatacgtatc	gcattgagtg	tttttagtgta	ggaccttctg	aaaaacgtaa	420
acaagctctt	gctgatctag	agaagttaaa	actagacgaa	aagtacactc	agcttagcac	480
aatgtttaaag	agtgtgtgtc	ctagttatta	caaaaaaaat	ttagatgatt	ctattgcaca	540
gtataaggaa	gccataaagc	aggctattga	agctgaaaag	aaaatagaga	cagtaaaaaga	600
ctatgcaaca	gctcaaagtg	ctgccgatga	cgaaaagaaa	agaaaatatag	ataatttttaa	660

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aatagttaga gatgttcttc ttattattaa aaaaactatt gagaaagcca gccgatctta 720
tgctgatgct tttgctattg caacatctag cttatcttgt agcgaattta agcaagctgt 780
taaagagttt aatgatgctg ctaaacaata tgctaattgga aataaaggag acaatgctgt 840
caatgttatt gtaggcacta tttctagtag gccttatgtc aaatttaaag atgagtttgc 900
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<210> 642
<211> 358
<212> PRT
<213> Homo sapiens

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<400> 642
Lys Asn Lys Glu Val Leu Met Lys Arg Lys Ser Asn Ile Cys Ile Ser
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Leu Leu Val Thr Ile Leu Phe Val Ser Cys Lys Phe Phe Gly Asn Lys
      20              25              30

Ser Ala Ser Lys Glu Lys Glu Glu Thr Ser Phe Ser Asp Thr Ala Ser
      35              40              45

Lys Ile Ser Lys Ser Gly Thr Ala Ala Ser Ser Asp Lys Gln Glu Lys
      50              55              60

Asn Thr Ser Asp Val Thr Gly Asp Ala Lys Lys His Thr Ser Ser Pro
      65              70              75              80

Tyr Met Leu Ala Asp Ala Leu Ile Val Ser Asp Thr Thr Asn Arg Asp
      85              90              95

Arg Asp Lys Gln Glu Asn Lys Asp Lys Leu Asn Glu Glu Asp Lys Lys
      100              105              110

Lys Leu Asn Ala Phe Phe Ser Thr Thr Lys Thr Tyr Gln Ser Ser Leu
      115              120              125

Asp Ser Ile Tyr Asn Lys Tyr Thr Gly Tyr Tyr Asn Thr Ile Asp Thr
      130              135              140

Tyr Gly Ser Cys Asp Thr Tyr Arg Ile Glu Cys Phe Ser Val Gly Pro
      145              150              155              160

Ser Glu Lys Arg Lys Gln Ala Leu Ala Asp Leu Glu Lys Leu Lys Leu
      165              170              175

Asp Glu Lys Tyr Thr Gln Leu Ser Thr Met Leu Lys Ser Ala Val Pro
      180              185              190

Ser Tyr Tyr Lys Lys Asn Leu Asp Asp Ser Ile Ala Gln Tyr Lys Glu
      195              200              205

Ala Ile Lys Gln Ala Ile Glu Ala Glu Ser Lys Ile Glu Thr Val Lys
      210              215              220

Asp Tyr Ala Thr Ala Gln Ser Ala Ala Asp Asp Glu Lys Lys Arg Asn
      225              230              235              240

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Ile Asp Asn Leu Lys Ile Val Arg Asp Val Leu Leu Ile Ile Lys Lys  
                   245                  250                  255

Thr Ile Glu Lys Ala Ser Arg Ser Tyr Ala Asp Ala Phe Ala Ile Ala  
                   260                  265                  270

Thr Ser Ser Leu Ser Cys Ser Glu Phe Lys Gln Ala Val Lys Glu Phe  
                   275                  280                  285

Asn Asp Ala Ala Lys Gln Tyr Ala Asn Gly Asn Lys Gly Asp Asn Ala  
                   290                  295                  300

Val Asn Val Ile Val Gly Thr Ile Ser Ser Met Pro Tyr Val Lys Phe  
                   305                  310                  315                  320

Lys Asp Glu Phe Ala Arg Ala Lys Met Phe Ala Arg Asn Tyr Arg Gly  
                   325                  330                  335

Asp Glu Val Asp Lys Met Ile Arg Ala Ile Asp Lys Leu Cys Asp Val  
                   340                  345                  350

Tyr Lys Lys Val Ala Leu  
                   355

&lt;210&gt; 643

&lt;211&gt; 323

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 643

Cys Lys Phe Phe Gly Asn Lys Ser Ala Ser Lys Glu Lys Glu Glu Thr  
   1                  5                  10                  15

Ser Phe Ser Asp Thr Ala Ser Lys Ile Ser Lys Ser Gly Thr Ala Ala  
                   20                  25                  30

Ser Ser Asp Lys Gln Glu Lys Asn Thr Ser Asp Val Thr Gly Asp Ala  
                   35                  40                  45

Lys Lys His Thr Ser Ser Pro Tyr Met Leu Ala Asp Ala Leu Ile Val  
                   50                  55                  60

Ser Asp Thr Thr Asn Arg Asp Arg Asp Lys Gln Glu Asn Lys Asp Lys  
                   65                  70                  75                  80

Leu Asn Glu Glu Asp Lys Lys Lys Leu Asn Ala Phe Phe Ser Thr Thr  
                   85                  90                  95

Lys Thr Tyr Gln Ser Ser Leu Asp Ser Ile Tyr Asn Lys Tyr Thr Gly  
                   100                  105                  110

Tyr Tyr Asn Thr Ile Asp Thr Tyr Gly Ser Cys Asp Thr Tyr Arg Ile  
                   115                  120                  125

Glu Cys Phe Ser Val Gly Pro Ser Glu Lys Arg Lys Gln Ala Leu Ala  
                   130                  135                  140

Asp Leu Glu Lys Leu Lys Leu Asp Glu Lys Tyr Thr Gln Leu Ser Thr

145	150	155	160
Met Leu Lys Ser Ala Val Pro Ser Tyr Tyr Lys Lys Asn Leu Asp Asp	165	170	175
Ser Ile Ala Gln Tyr Lys Glu Ala Ile Lys Gln Ala Ile Glu Ala Glu	180	185	190
Ser Lys Ile Glu Thr Val Lys Asp Tyr Ala Thr Ala Gln Ser Ala Ala	195	200	205
Asp Asp Glu Lys Lys Arg Asn Ile Asp Asn Leu Lys Ile Val Arg Asp	210	215	220
Val Leu Leu Ile Ile Lys Lys Thr Ile Glu Lys Ala Ser Arg Ser Tyr	225	230	235
Ala Asp Ala Phe Ala Ile Ala Thr Ser Ser Leu Ser Cys Ser Glu Phe	245	250	255
Lys Gln Ala Val Lys Glu Phe Asn Asp Ala Ala Lys Gln Tyr Ala Asn	260	265	270
Gly Asn Lys Gly Asp Asn Ala Val Asn Val Ile Val Gly Thr Ile Ser	275	280	285
Ser Met Pro Tyr Val Lys Phe Lys Asp Glu Phe Ala Arg Ala Lys Met	290	295	300
Phe Ala Arg Asn Tyr Arg Gly Asp Glu Val Asp Lys Met Ile Arg Ala	305	310	315
Ile Asp Lys			

&lt;210&gt; 644

&lt;211&gt; 696

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 644

```

taaggaaata tgaggaatat tagcaattgt atcaaatata ttatattaac aatgcttatt 60
ggattattaa ttttttggtg tgcaaccttt gtttggttga ttggaatttt ttattcaaatt 120
aacttttaaag aagagcggaa ttattcaata agcccaatag atagtgttat tatgcgtaaa 180
tgttattttt aagaatttaa gtctggactt attaaaagcg tattctttta gaaattagat 240
gtaaatgtta actctaaaaa ttttaaggag ctaaaataagg tagataaaca aaatctgcta 300
aattcttatc catcttatca tatggagttt gtcgtagttg ataatggatt tttaatgaat 360
tttaaaaatg ttatttttaa tggatatagat gatgctaaat tatacgatca acgtgatatg 420
gtttacggag gatttagata ctcaaaagag gcttatttcc aaattatttg caattatgat 480
gttaaattaa ataaaatgaa acaatatact ccagcaattg tagtaaatgt tttcaaaatt 540
aacattaatg atgctttatt taactcgtaa ttaaagcaaa aaacttttaa agttactttg 600
atttcccata ataataaaga gtatatttta caaactaata atttcttatc aaagtataat 660
tttcaaacac cagaaaagga gaatagttct tactaa 696

```

&lt;210&gt; 645

&lt;211&gt; 577

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 645

```

aaataacttt aaagaagagc ggaattattc aataagccca atagatagtg ttattatgcg 60
taaagtgtat tttaaagaat ttaagtctgg acttattaaa agcgtattct ttaagaaatt 120
agatgtaaat gttaactcta aaaattttta ggagctaaat aaggtagata aacaaaatct 180
gctaaattct tatccatctt atcatatgga gtttgcgta gttgataatg gatttttaat 240
gaattttaaa aatgttattt ttaatggtat agatgatgct aaattatacg atcaacgtga 300
tatgggtttac ggaggatttta gatactcaaa agaggcttat ttccaaatta ttggcaatta 360
tgatgttaaa ttaaataaaa tgaaacaata tactccagca attgtagtaa atgttttcaa 420
aattaacatt aatgatgctt tatttaactc gttattaaag caaaaaactt taaaagttac 480
tttgatttcc cataataata aagagtatat ttacaaaact aataatttct tatcaaagta 540
taattttcaa acaccagaaa aggagaatag ttcttac 577

```

&lt;210&gt; 646

&lt;211&gt; 230

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 646

```

Gly Asn Met Arg Asn Ile Ser Asn Cys Ile Lys Tyr Ile Ile Leu Thr
1           5           10           15

```

```

Met Leu Ile Gly Leu Leu Ile Phe Cys Cys Ala Thr Phe Val Trp Leu
          20           25           30

```

```

Ile Gly Ile Phe Tyr Ser Asn Asn Phe Lys Glu Glu Arg Asn Tyr Ser
          35           40           45

```

```

Ile Ser Pro Ile Asp Ser Val Ile Met Arg Lys Cys Tyr Phe Lys Glu
          50           55           60

```

```

Phe Lys Ser Gly Leu Ile Lys Ser Val Phe Phe Lys Lys Leu Asp Val
          65           70           75           80

```

```

Asn Val Asn Ser Lys Asn Phe Lys Glu Leu Asn Lys Val Asp Lys Gln
          85           90           95

```

```

Asn Leu Leu Asn Ser Tyr Pro Ser Tyr His Met Glu Phe Val Val Val
          100          105          110

```

```

Asp Asn Gly Phe Leu Met Asn Phe Lys Asn Val Ile Phe Asn Gly Ile
          115          120          125

```

```

Asp Asp Ala Lys Leu Tyr Asp Gln Arg Asp Met Val Tyr Gly Gly Phe
          130          135          140

```

```

Arg Tyr Ser Lys Glu Ala Tyr Phe Gln Ile Ile Gly Asn Tyr Asp Val
          145          150          155          160

```

```

Lys Leu Asn Lys Met Lys Gln Tyr Thr Pro Ala Ile Val Val Asn Val
          165          170          175

```

```

Phe Lys Ile Asn Ile Asn Asp Ala Leu Phe Asn Ser Leu Leu Lys Gln
          180          185          190

```

```

Lys Thr Leu Lys Val Thr Leu Ile Ser His Asn Asn Lys Glu Tyr Ile
          195          200          205

```

Leu Gln Thr Asn Asn Phe Leu Ser Lys Tyr Asn Phe Gln Thr Pro Glu  
 210 215 220

Lys Glu Asn Ser Ser Tyr  
 225 230

<210> 647

<211> 192

<212> PRT

<213> Homo sapiens

<400> 647

Asn Asn Phe Lys Glu Glu Arg Asn Tyr Ser Ile Ser Pro Ile Asp Ser  
 1 5 10 15

Val Ile Met Arg Lys Cys Tyr Phe Lys Glu Phe Lys Ser Gly Leu Ile  
 20 25 30

Lys Ser Val Phe Phe Lys Lys Leu Asp Val Asn Val Asn Ser Lys Asn  
 35 40 45

Phe Lys Glu Leu Asn Lys Val Asp Lys Gln Asn Leu Leu Asn Ser Tyr  
 50 55 60

Pro Ser Tyr His Met Glu Phe Val Val Val Asp Asn Gly Phe Leu Met  
 65 70 75 80

Asn Phe Lys Asn Val Ile Phe Asn Gly Ile Asp Asp Ala Lys Leu Tyr  
 85 90 95

Asp Gln Arg Asp Met Val Tyr Gly Gly Phe Arg Tyr Ser Lys Glu Ala  
 100 105 110

Tyr Phe Gln Ile Ile Gly Asn Tyr Asp Val Lys Leu Asn Lys Met Lys  
 115 120 125

Gln Tyr Thr Pro Ala Ile Val Val Asn Val Phe Lys Ile Asn Ile Asn  
 130 135 140

Asp Ala Leu Phe Asn Ser Leu Leu Lys Gln Lys Thr Leu Lys Val Thr  
 145 150 155 160

Leu Ile Ser His Asn Asn Lys Glu Tyr Ile Leu Gln Thr Asn Asn Phe  
 165 170 175

Leu Ser Lys Tyr Asn Phe Gln Thr Pro Glu Lys Glu Asn Ser Ser Tyr  
 180 185 190

<210> 648

<211> 837

<212> DNA

<213> Homo sapiens

<400> 648

taaatgagca aaaaagtaat tttaatatatta ctagaaatatt tgatcttgctc ttgtgattta 60

```

tctataaata aagaacaaaa aaccaaagaa aaaacatctg aaaagcaaga atctgaaaaa 120
caaaatattg aaaaacaaga gcctgaaaaa cagaaacaaa atgcagcaaa aataatccct 180
acggtatcaa ttcaaacggt agaaataagg gaatcaaatc aaattccaaa aagcattgag 240
aagtactaca agcaagctta tccgattcaa acattcactc ttgatttttag catcacaaga 300
gaaaaggaat ttctaaaacc agaagataaa atcttgccca cacaggggaa agtggagtct 360
ttgagcatct taataaataa aaaattgtta gactttaaag cccagaaaaa tccaaaaagc 420
tcaactttta aaaattttcaa agaaattaaa aatattgaga atttcttcca aaatcaagac 480
ttattatttg tcttaaccct taaagataaa aataacaaca acactattaa catcatgctc 540
aatcccccaa acgacatcca aaaacccaaa gattatattt taaaagacct taaagacaca 600
attaaaaagg gtactgggtga gaaatactta aatcctatct atagatttca aataaaaaac 660
aaaaaagatt atcattcaat agattacaac aaagtgaacta ttagcgaaaa aacaatagaa 720
ttggacctac tgcctcacga acaagtcttt caaatgaata aaaatttcac taaaatttta 780
gacacaataa cagacttaaa taatctaaaa ttagtaattc aaaaagaatt agtgtaa 837

```

<210> 649

<211> 724

<212> DNA

<213> Homo sapiens

<400> 649

```

ttgtgattta tctataaata aagaacaaaa aaccaaagaa aaaacatctg aaaagcaaga 60
atctgaaaaa caaaatattg aaaaacaaga gcctgaaaaa cagaaacaaa atgcagcaaa 120
aataatccct acggtatcaa ttcaaacggt agaaataagg gaatcaaatc aaattccaaa 180
aagcattgag aagtactaca agcaagctta tccgattcaa acattcactc ttgatttttag 240
catcacaaga gaaaaggaat ttctaaaacc agaagataaa atcttgccca cacaggggaa 300
agtggagtct ttgagcatct taataaataa aaaattgtta gactttaaag cccagaaaaa 360
tccaaaaagc tcaactttta aaaattttcaa agaaattaaa aatattgaga atttcttcca 420
aaatcaagac ttattatttg tcttaaccct taaagataaa aataacaaca acactattaa 480
catcatgctc aatcccccaa acgacatcca aaaacccaaa gattatattt taaaagacct 540
taaagacaca attaaaaagg gtactgggtga gaaatactta aatcctatct atagatttca 600
aataaaaaac aaaaaaagg atcattcaat agattacaac aaagtgaacta ttagcgaaaa 660
aacaatagaa ttggacctac tgcctcacga acaagtcttt caaatgaata aaaatttcac 720
taaa 724

```

<210> 650

<211> 277

<212> PRT

<213> Homo sapiens

<400> 650

```

Met Ser Lys Lys Val Ile Leu Ile Leu Leu Glu Ile Leu Ile Leu Ser
  1             5             10             15

Cys Asp Leu Ser Ile Asn Lys Glu Gln Lys Thr Lys Glu Lys Thr Ser
          20             25             30

Glu Lys Gln Glu Ser Glu Lys Gln Asn Ile Glu Lys Gln Glu Pro Glu
  35             40             45

Lys Gln Lys Gln Asn Ala Ala Lys Ile Ile Pro Thr Val Ser Ile Gln
  50             55             60

Thr Val Glu Ile Arg Glu Ser Asn Gln Ile Pro Lys Ser Ile Glu Lys
  65             70             75             80

Tyr Tyr Lys Gln Ala Tyr Pro Ile Gln Thr Phe Thr Leu Asp Phe Ser
          85             90             95

```

Ile Thr Arg Glu Lys Glu Phe Leu Lys Pro Glu Asp Lys Ile Leu Pro  
 100 105 110  
 Thr Gln Gly Lys Val Glu Ser Leu Ser Ile Leu Ile Asn Lys Lys Leu  
 115 120 125  
 Leu Asp Phe Lys Ala Pro Glu Asn Pro Lys Ser Ser Thr Leu Lys Asn  
 130 135 140  
 Phe Lys Glu Ile Lys Asn Ile Glu Asn Phe Phe Gln Asn Gln Asp Leu  
 145 150 155 160  
 Leu Phe Val Leu Thr Leu Lys Asp Lys Asn Asn Asn Asn Thr Ile Asn  
 165 170 175  
 Ile Met Leu Asn Pro Pro Asn Asp Ile Gln Lys Pro Lys Asp Tyr Ile  
 180 185 190  
 Leu Lys Asp Leu Lys Asp Thr Ile Lys Lys Gly Thr Gly Glu Lys Tyr  
 195 200 205  
 Leu Asn Pro Ile Tyr Arg Phe Gln Ile Lys Asn Lys Lys Asp Tyr His  
 210 215 220  
 Ser Ile Asp Tyr Asn Lys Val Thr Ile Ser Glu Lys Thr Ile Glu Leu  
 225 230 235 240  
 Asp Leu Leu Pro His Glu Gln Val Phe Gln Met Asn Lys Asn Phe Thr  
 245 250 255  
 Lys Ile Leu Asp Thr Ile Thr Asp Leu Asn Asn Leu Lys Leu Val Ile  
 260 265 270  
 Gln Lys Glu Leu Val  
 275  
 <210> 651  
 <211> 241  
 <212> PRT  
 <213> Homo sapiens  
 <400> 651  
 Cys Asp Leu Ser Ile Asn Lys Glu Gln Lys Thr Lys Glu Lys Thr Ser  
 1 5 10 15  
 Glu Lys Gln Glu Ser Glu Lys Gln Asn Ile Glu Lys Gln Glu Pro Glu  
 20 25 30  
 Lys Gln Lys Gln Asn Ala Ala Lys Ile Ile Pro Thr Val Ser Ile Gln  
 35 40 45  
 Thr Val Glu Ile Arg Glu Ser Asn Gln Ile Pro Lys Ser Ile Glu Lys  
 50 55 60  
 Tyr Tyr Lys Gln Ala Tyr Pro Ile Gln Thr Phe Thr Leu Asp Phe Ser  
 65 70 75 80  
 Ile Thr Arg Glu Lys Glu Phe Leu Lys Pro Glu Asp Lys Ile Leu Pro

	85		90		95
Thr Gln Gly Lys Val Glu Ser Leu Ser Ile Leu Ile Asn Lys Lys Leu	100		105		110
Leu Asp Phe Lys Ala Pro Glu Asn Pro Lys Ser Ser Thr Leu Lys Asn	115		120		125
Phe Lys Glu Ile Lys Asn Ile Glu Asn Phe Phe Gln Asn Gln Asp Leu	130		135		140
Leu Phe Val Leu Thr Leu Lys Asp Lys Asn Asn Asn Asn Thr Ile Asn	145		150		155
Ile Met Leu Asn Pro Pro Asn Asp Ile Gln Lys Pro Lys Asp Tyr Ile	165		170		175
Leu Lys Asp Leu Lys Asp Thr Ile Lys Lys Gly Thr Gly Glu Lys Tyr	180		185		190
Leu Asn Pro Ile Tyr Arg Phe Gln Ile Lys Asn Lys Lys Asp Tyr His	195		200		205
Ser Ile Asp Tyr Asn Lys Val Thr Ile Ser Glu Lys Thr Ile Glu Leu	210		215		220
Asp Leu Leu Pro His Glu Gln Val Phe Gln Met Asn Lys Asn Phe Thr	225		230		235
					240

Lys

&lt;210&gt; 652

&lt;211&gt; 579

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 652

```

tagaaggagg aaaaaatgaa aattggaaag ctaaattcaa tagttatagc cttgtttttt 60
aaactattgg tcgcatgtag tattggatta gtagaaagaa caaatgcagc tcttgaatcg 120
tcctctaagg atttaaaaaa caaaatttta aaaataaaaa aagaagccac gggaaaagg 180
gtactttttg aagctttttac aggtcttaaa accggttcca aggtaacaag tgggtggacta 240
gccttaagag aagcaaaaagt acaagccatt gttgaaacag gaaagttcct taagataata 300
gaagaagaag ctttaaaagct taaagaaact ggaaacagtg gtcaattcct ggctatgttt 360
gacttaatgc ttgaggttgt agaatcgcta gaagacgttg gaataatagg cttaaaagcc 420
cgtgttttag aggaatctaa aaataatcct ataaacacag ctgaaagatt gcttgcggt 480
aaagctcaaa tagaaaatca acttaaagtg gtttaaggaaa aacaaaatat tgaaaatggt 540
ggagagaaaa aaaataataa aagcaaaaaa aagaaataa 579

```

&lt;210&gt; 653

&lt;211&gt; 502

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 653

```

atgtagtatt ggattagtag aaagaacaaa tgcagctctt gaatcgtcct ctaaggattt 60
aaaaaacaaa atttttaaaaa taaaaaaaga agccacggga aaagggtgtac tttttgaagc 120
ttttacaggt cttaaaaccg gttccaaggt aacaagtggt ggactagcct taagagaagc 180

```

```

aaaagtacaa gccattgttg aaacaggaaa gttccttaag ataatagaag aagaagcttt 240
aaagcttaaa gaaactggaa acagtgggtca attcttggct atgtttgact taatgcttga 300
ggttgtagaa tcgctagaag acgttggaat aataggctta aaagcccgtg ttttagagga 360
atctaaaaat aatcctataa acacagctga aagattgctt gcggctaaag ctcaaataga 420
aaatcaactt aaagtgggta aggaaaaaca aaatattgaa aatggtggag agaaaaaaaa 480
taataaaagc aaaaaaaaga aa 502

```

<210> 654

<211> 191

<212> PRT

<213> Homo sapiens

<400> 654

```

Lys Glu Glu Lys Met Lys Ile Gly Lys Leu Asn Ser Ile Val Ile Ala
  1             5             10             15

```

```

Leu Phe Phe Lys Leu Leu Val Ala Cys Ser Ile Gly Leu Val Glu Arg
      20             25             30

```

```

Thr Asn Ala Ala Leu Glu Ser Ser Ser Lys Asp Leu Lys Asn Lys Ile
    35             40             45

```

```

Leu Lys Ile Lys Lys Glu Ala Thr Gly Lys Gly Val Leu Phe Glu Ala
    50             55             60

```

```

Phe Thr Gly Leu Lys Thr Gly Ser Lys Val Thr Ser Gly Gly Leu Ala
    65             70             75             80

```

```

Leu Arg Glu Ala Lys Val Gln Ala Ile Val Glu Thr Gly Lys Phe Leu
      85             90             95

```

```

Lys Ile Ile Glu Glu Glu Ala Leu Lys Leu Lys Glu Thr Gly Asn Ser
    100             105             110

```

```

Gly Gln Phe Leu Ala Met Phe Asp Leu Met Leu Glu Val Val Glu Ser
    115             120             125

```

```

Leu Glu Asp Val Gly Ile Ile Gly Leu Lys Ala Arg Val Leu Glu Glu
    130             135             140

```

```

Ser Lys Asn Asn Pro Ile Asn Thr Ala Glu Arg Leu Leu Ala Ala Lys
    145             150             155             160

```

```

Ala Gln Ile Glu Asn Gln Leu Lys Val Val Lys Glu Lys Gln Asn Ile
    165             170             175

```

```

Glu Asn Gly Gly Glu Lys Lys Asn Asn Lys Ser Lys Lys Lys Lys
    180             185             190

```

<210> 655

<211> 167

<212> PRT

<213> Homo sapiens

<400> 655

```

Cys Ser Ile Gly Leu Val Glu Arg Thr Asn Ala Ala Leu Glu Ser Ser
  1             5             10             15

```



Ser Lys Asp Leu Lys Asn Lys Ile Leu Lys Ile Lys Lys Glu Ala Thr  
                   20                  25                  30  
 Gly Lys Gly Val Leu Phe Glu Ala Phe Thr Gly Leu Lys Thr Gly Ser  
           35                  40                  45  
 Lys Val Thr Ser Gly Gly Leu Ala Leu Arg Glu Ala Lys Val Gln Ala  
       50                  55                  60  
 Ile Val Glu Thr Gly Lys Phe Leu Lys Ile Ile Glu Glu Glu Ala Leu  
       65                  70                  75                  80  
 Lys Leu Lys Glu Thr Gly Asn Ser Gly Gln Phe Leu Ala Met Phe Asp  
                   85                  90                  95  
 Leu Met Leu Glu Val Val Glu Ser Leu Glu Asp Val Gly Ile Ile Gly  
           100                  105                  110  
 Leu Lys Ala Arg Val Leu Glu Glu Ser Lys Asn Asn Pro Ile Asn Thr  
           115                  120                  125  
 Ala Glu Arg Leu Leu Ala Ala Lys Ala Gln Ile Glu Asn Gln Leu Lys  
           130                  135                  140  
 Val Val Lys Glu Lys Gln Asn Ile Glu Asn Gly Gly Glu Lys Lys Asn  
       145                  150                  155                  160  
 Asn Lys Ser Lys Lys Lys Lys  
                   165

<210> 656  
 <211> 525  
 <212> DNA  
 <213> Homo sapiens

<400> 656  
 taatttttaa aatttaaata ttacataat agtaatgtgt gtgggagacg tatgaaaaat 60  
 attttattat ttgttatttt attattcttt tcttgtaaag aatttaatta ttctgatctt 120  
 aggagaaggc cttcaaaggt tttaaagtgt tctaattggtg catcaaataa agaacttaaa 180  
 atttcttttg tagattcttt aaatgatgat caaaaagaag ctttgttttt tcttgaacag 240  
 gtagttcttg atagcaatcc cgacaagttt aatcaaattt ttaatttaaa tgaagagaag 300  
 gtaaaagaaa tgcttggttac tggtgtaag tgtttaaagg ccaaaagaaa ggctaaaatg 360  
 gctcttgaga gctcaaagt tgcaaagtgt gccaatgcta aacagcaatt gctacaggtt 420  
 gaaaaaactt acatagataa ttgcgacaa tcttttatga ctactaaaaa cattgaagag 480  
 gcttgtaatc ttgtaaaaaa ttatgatgca tctgcttcgt tttaa 525

<210> 657  
 <211> 430  
 <212> DNA  
 <213> Homo sapiens

<400> 657  
 ttgtaaagaa tttaattatt ctgatcttag gagaaggcct tcaaagggtt taaatgcttc 60  
 taatggtgca tcaaataaag aacttaaaat ttcttttgta gattctttaa atgatgatca 120  
 aaaagaagct ttgttttttc ttgaacaggt agttcttgat agcaatcccg acaagttaa 180  
 tcaaattttt aatttaaatg aagagaaggt aaaagaaatg cttgttactg ttgttaagt 240  
 tttaaaggcc aaaagaaagg ctaaaatggc tcttgagagc tcaaagtgtg caaatgttgc 300  
 caatgctaaa cagcaattgc tacaggttga aaaaacttac atagataatt tgcgacaatc 360

ttttatgact actaaaaaca ttgaagaggc ttgtaatctt gtaaaaaatt atgatgcac 420  
tgcttcgttt 430

<210> 658

<211> 173

<212> PRT

<213> Homo sapiens

<400> 658

Phe Leu Lys Phe Lys Tyr Leu His Asn Ser Asn Val Cys Gly Arg Arg  
1 5 10 15

Met Lys Asn Ile Leu Leu Phe Val Ile Leu Leu Phe Phe Ser Cys Lys  
20 25 30

Glu Phe Asn Tyr Ser Asp Leu Arg Arg Arg Pro Ser Lys Val Leu Asn  
35 40 45

Ala Ser Asn Gly Ala Ser Asn Lys Glu Leu Lys Ile Ser Phe Val Asp  
50 55 60

Ser Leu Asn Asp Asp Gln Lys Glu Ala Leu Phe Phe Leu Glu Gln Val  
65 70 75 80

Val Leu Asp Ser Asn Pro Asp Lys Phe Asn Gln Ile Phe Asn Leu Asn  
85 90 95

Glu Glu Lys Val Lys Glu Met Leu Val Thr Val Val Lys Cys Leu Lys  
100 105 110

Ala Lys Arg Lys Ala Lys Met Ala Leu Glu Ser Ser Asn Val Ala Asn  
115 120 125

Val Ala Asn Ala Lys Gln Gln Leu Leu Gln Val Glu Lys Thr Tyr Ile  
130 135 140

Asp Asn Leu Arg Gln Ser Phe Met Thr Thr Lys Asn Ile Glu Glu Ala  
145 150 155 160

Cys Asn Leu Val Lys Asn Tyr Asp Ala Ser Ala Ser Phe  
165 170

<210> 659

<211> 143

<212> PRT

<213> Homo sapiens

<400> 659

Cys Lys Glu Phe Asn Tyr Ser Asp Leu Arg Arg Arg Pro Ser Lys Val  
1 5 10 15

Leu Asn Ala Ser Asn Gly Ala Ser Asn Lys Glu Leu Lys Ile Ser Phe  
20 25 30

Val Asp Ser Leu Asn Asp Asp Gln Lys Glu Ala Leu Phe Phe Leu Glu  
35 40 45

Gln Val Val Leu Asp Ser Asn Pro Asp Lys Phe Asn Gln Ile Phe Asn

50					55					60					
Leu	Asn	Glu	Glu	Lys	Val	Lys	Glu	Met	Leu	Val	Thr	Val	Val	Lys	Cys
65					70					75					80
Leu	Lys	Ala	Lys	Arg	Lys	Ala	Lys	Met	Ala	Leu	Glu	Ser	Ser	Asn	Val
				85					90					95	
Ala	Asn	Val	Ala	Asn	Ala	Lys	Gln	Gln	Leu	Leu	Gln	Val	Glu	Lys	Thr
			100					105					110		
Tyr	Ile	Asp	Asn	Leu	Arg	Gln	Ser	Phe	Met	Thr	Thr	Lys	Asn	Ile	Glu
		115					120					125			
Glu	Ala	Cys	Asn	Leu	Val	Lys	Asn	Tyr	Asp	Ala	Ser	Ala	Ser	Phe	
	130					135					140				

<210> 660

$\langle 211 \rangle$  324

<212> DNA

<213> Homo sapiens

<400> 660

taattatttaa	aatctaagga	gaagagattt	atgaacaaaa	aattttctat	ttcattatta	60
tctacaatat	tagccttctt	gtagtatta	ggttggtgatt	tgtcaagcaa	taatgctgaa	120
aacaaaatgg	atgatatttt	taatttagaa	aagaaataca	tggataattc	aaattataaa	180
tgtttaagta	aaaatgaggc	tatagttaaa	aattctaaaa	ttaaattagg	tgtaaataat	240
actagaagtc	gttcttattc	ttctagagag	actaatgttt	cggattccta	taataaaacc	300
tattcatatt	qcaaaaqcaa	ctga				324

<210> 661

<211> 229

<212> DNA

<213> Homo sapiens

<400> 661

ttgtgatttg	tcaagcaata	atgctgaaaa	cāaaatggat	gatāttttta	atttagaaaa	60
gaaatacatg	gataattcaa	attataaatg	tttaagtaaa	aatgaggcta	tagttaaaaa	120
ttctaaaatt	aaattaggtg	taaataatac	tagaagtcgt	tcttattctt	ctagagagac	180
taatgtttcg	gattcctata	ataaaaccta	ttcatattgc	aaaagcaac		229

<210> 662

<211> 106

<212> PRT

<213> Homo sapiens

<400> 662

Leu Leu Lys Ser Lys Glu Lys Arg Phe Met Asn Lys Lys Phe Ser Ile  
1 5 10 15

Ser Leu Leu Ser Thr Ile Leu Ala Phe Leu Leu Val Leu Gly Cys Asp  
20 25 30

Leu Ser Ser Asn Asn Ala Glu Asn Lys Met Asp Asp Ile Phe Asn Leu  
35 40 45

Glu Lys Lys Tyr Met Asp Asn Ser Asn Tyr Lys Cys Leu Ser Lys Asn  
50 55 60

Glu Ala Ile Val Lys Asn Ser Lys Ile Lys Leu Gly Val Asn Asn Thr  
65 70 75 80

Arg Ser Arg Ser Tyr Ser Ser Arg Glu Thr Asn Val Ser Asp Ser Tyr  
85 90 95

Asn Lys Thr Tyr Ser Tyr Cys Lys Ser Asn  
100 105

<210> 663

<211> 76

<212> PRT

<213> Homo sapiens

<400> 663

Cys Asp Leu Ser Ser Asn Asn Ala Glu Asn Lys Met Asp Asp Ile Phe  
1 5 10 15

Asn Leu Glu Lys Lys Tyr Met Asp Asn Ser Asn Tyr Lys Cys Leu Ser  
20 25 30

Lys Asn Glu Ala Ile Val Lys Asn Ser Lys Ile Lys Leu Gly Val Asn  
35 40 45

Asn Thr Arg Ser Arg Ser Tyr Ser Ser Arg Glu Thr Asn Val Ser Asp  
50 55 60

Ser Tyr Asn Lys Thr Tyr Ser Tyr Cys Lys Ser Asn  
65 70 75

<210> 664

<211> 459

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (29)

<223> n equals a,t,g, or c

<400> 664

tgaatattaa taataaaaaa aggaataana atgaaaatta tcaacatatt attttgttta 60  
tttttactaa tgctaaacag ctgtaattct aatgatacta atactagcca aacaaaaagt 120  
agacaaaaac gtgatttaac ccaaaaagaa gcaacacaag aaaaaccaaa atctaaagaa 180  
gacctgctta gagaaaagct atctgaagac caaaaaacac atcttgactg gttaaaaacc 240  
gctttaactg gtgctggaga atttgataaa tttttaggat atgacgaaga caaaataaaa 300  
ggtgcactta atcatataaa gagtgaactt gataagtgtg ctggggataa ttctgaacaa 360  
caaaaaagca ccttcaaaga ggtggttaag ggggctcttg gtggcggtat agatagtttt 420  
gcaactagtg caagtagtac ctgccaaact cagcaataa 459

<210> 665

<211> 376

<212> DNA

<213> Homo sapiens

<400> 665

ctgtaattct aatgatacta atactagcca aacaaaaagt agacaaaaac gtgatttaac 60

```

ccaaaaagaa gcaacacaag aaaaaccaa atctaaagaa gacctgctta gagaaaagct 120
atctgaagac caaaaaacac atcttgactg gttaaaaacc gctttaactg gtgctggaga 180
atttgataaa tttttaggat atgacgaaga caaaataaaa ggtgcactta atcatataaa 240
gagtgaactt gataagtgtg ctggggataa ttctgaacaa caaaaaagca ccttcaaaga 300
ggtgggtaag ggggctcttg gtggcggtat agatagtttt gcaactagtg caagtagtac 360
ctgccaaagt cagcaa 376

```

<210> 666

<211> 151

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (9)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 666

```

Ile Leu Ile Ile Lys Lys Gly Ile Xaa Met Lys Ile Ile Asn Ile Leu
  1             5             10             15

```

```

Phe Cys Leu Phe Leu Leu Met Leu Asn Ser Cys Asn Ser Asn Asp Thr
      20             25             30

```

```

Asn Thr Ser Gln Thr Lys Ser Arg Gln Lys Arg Asp Leu Thr Gln Lys
      35             40             45

```

```

Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys Glu Asp Leu Leu Arg Glu
      50             55             60

```

```

Lys Leu Ser Glu Asp Gln Lys Thr His Leu Asp Trp Leu Lys Thr Ala
      65             70             75             80

```

```

Leu Thr Gly Ala Gly Glu Phe Asp Lys Phe Leu Gly Tyr Asp Glu Asp
      85             90             95

```

```

Lys Ile Lys Gly Ala Leu Asn His Ile Lys Ser Glu Leu Asp Lys Cys
      100            105            110

```

```

Thr Gly Asp Asn Ser Glu Gln Gln Lys Ser Thr Phe Lys Glu Val Val
      115            120            125

```

```

Lys Gly Ala Leu Gly Gly Gly Ile Asp Ser Phe Ala Thr Ser Ala Ser
      130            135            140

```

```

Ser Thr Cys Gln Ala Gln Gln
145             150

```

<210> 667

<211> 125

<212> PRT

<213> Homo sapiens

<400> 667

```

Cys Asn Ser Asn Asp Thr Asn Thr Ser Gln Thr Lys Ser Arg Gln Lys
  1             5             10             15

```

```

Arg Asp Leu Thr Gln Lys Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys

```

20 25 30

Glu Asp Leu Leu Arg Glu Lys Leu Ser Glu Asp Gln Lys Thr His Leu  
35 40 45

Asp Trp Leu Lys Thr Ala Leu Thr Gly Ala Gly Glu Phe Asp Lys Phe  
50 55 60

Leu Gly Tyr Asp Glu Asp Lys Ile Lys Gly Ala Leu Asn His Ile Lys  
65 70 75 80

Ser Glu Leu Asp Lys Cys Thr Gly Asp Asn Ser Glu Gln Gln Lys Ser  
85 90 95

Thr Phe Lys Glu Val Val Lys Gly Ala Leu Gly Gly Gly Ile Asp Ser  
100 105 110

Phe Ala Thr Ser Ala Ser Ser Thr Cys Gln Ala Gln Gln  
115 120 125

&lt;210&gt; 668

&lt;211&gt; 1047

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 668

```

taggagagaa taattatgaa taaaaaaaca ttgattatTT gtgctgTTTT tgcgctgata 60
atttcttgca agaattttgc aactggtaaa gatataaaac aaaattcaga agggaaaatt 120
aaaggatttg taaataagat tttagatcca gtaaaggata aaattgcttc aagtggatga 180
aaagtagatg aagtagcaaa aaaattacaa gaagaagaaa aagaagaatt aatgcagggc 240
gatgatccta atggcagtgg aataaatccg ccaccagtat tgccggaaaa tattcacaat 300
aatgcattag tattaaaagc aatagaacaa agtgatggtc aacaagaaaa aaaagtagaa 360
gaagctgaag ctaaagtTga agaaaataaa gaaaaacaag agaatacaga agaaaacatt 420
aaagaaaaag aaataataga cgaacaaaac aaacaagaat tagctaaagc taaagaagaa 480
gaacaacaaa aagaacaaaa aagacatcaa gaagagcaac aaagaaaagc taaagcagaa 540
aaagaaaaaa gagaaagaga agaggcagaa caacaaaaaac gacaacaaga agaggaagaa 600
aaaaggcaag ttgataacca aattaaaaca cttatagcta aaatagatga gatcaatgaa 660
aatattgatg ttataaaatg gcaaacgact gtaggcccac aaggcgTtat agatagaatt 720
actgggcctg tgtatgatga ttttaccaat ggcaataatt ctatacgcg aacttgggag 780
gggttagaag aggaatcaga agacgaagga ttaggaaaaat tattgaaaga attgagtgat 840
gctagggacg cgctaagaac taaattaaat gaaggcaata aaccatatac tggttacgaa 900
gagcctaagt taaaagaaaag tgtaaatgtt agcgaaatta aagaagattt agaaaaatta 960
aatcaaaaat tagaagaagt taaaaaatat cttaaagata gttctaaatt tgaagaaatt 1020
aaaggataca tcagtgcacg tcagtaa 1047

```

&lt;210&gt; 669

&lt;211&gt; 979

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 669

```

ttgcaagaat tttgcaactg gtaaagatat aaaacaaaat tcagaaggga aaattaaagg 60
atttgtaaAT aagatttttag atccagtaaa ggataaaatt gcttcaagtG gtacaaaagt 120
agatgaagta gcaaaaaaat tacaagaaga agaaaaagaa gaattaatgc agggcgatga 180
tcctaattggc agtggaaata atccgccacc agtattgccg gaaaatatTC acaataatgc 240
attagtatta aaagcaatag aacaaagtga tgggtcaacaa gaaaaaaaag tagaagaagc 300
tgaagctaaa gttgaagaaa ataaagaaaa accaagagaat acagaagaaa acattaaaga 360
aaaagaaata atagacgaac aaaacaaaca agaattagct aaagctaaag aagaagaaca 420

```

```

acaaaaagaa caaaaaagac atcaagaaga gcaacaaaga aaagctaaag cagaaaaaga 480
aaaaagagaa agagaagagg cagaacaaca aaaacgacaa caagaagagg aagaaaaaag 540
gcaagttgat aaccaaatta aaacacttat agctaaaata gatgagatca atgaaaatat 600
tgatgttata aaatggcaaa cgactgtagg cccacaaggc gttatagata gaattactgg 660
gcctgtgtat gatgatttta ccaatggcaa taattctata cgcgaaactt gggagggggtt 720
agaagaggaa tcagaagacg aaggattagg aaaattattg aaagaattga gtgatgctag 780
ggacgcgcta agaactaaat taaatgaagg caataaacca tatactgggtt acgaagagcc 840
taagttaaaa gaaagtgtaa atgttagcga aattaaagaa gatttagaaa aattaaatc 900
aaaattagaa gaagttaaaa aatatcttaa agatagttct aaatttgaag aaattaaagg 960
atatcatcagt gacagtcag 979

```

<210> 670

<211> 347

<212> PRT

<213> Homo sapiens

<400> 670

```

Glu Arg Ile Ile Met Asn Lys Lys Thr Leu Ile Ile Cys Ala Val Phe
  1             5             10             15

```

```

Ala Leu Ile Ile Ser Cys Lys Asn Phe Ala Thr Gly Lys Asp Ile Lys
      20             25             30

```

```

Gln Asn Ser Glu Gly Lys Ile Lys Gly Phe Val Asn Lys Ile Leu Asp
      35             40             45

```

```

Pro Val Lys Asp Lys Ile Ala Ser Ser Gly Thr Lys Val Asp Glu Val
      50             55             60

```

```

Ala Lys Lys Leu Gln Glu Glu Glu Lys Glu Glu Leu Met Gln Gly Asp
      65             70             75             80

```

```

Asp Pro Asn Gly Ser Gly Ile Asn Pro Pro Pro Val Leu Pro Glu Asn
      85             90             95

```

```

Ile His Asn Asn Ala Leu Val Leu Lys Ala Ile Glu Gln Ser Asp Gly
      100            105            110

```

```

Gln Gln Glu Lys Lys Val Glu Glu Ala Glu Ala Lys Val Glu Glu Asn
      115            120            125

```

```

Lys Glu Lys Gln Glu Asn Thr Glu Glu Asn Ile Lys Glu Lys Glu Ile
      130            135            140

```

```

Ile Asp Glu Gln Asn Lys Gln Glu Leu Ala Lys Ala Lys Glu Glu Glu
      145            150            155            160

```

```

Gln Gln Lys Glu Gln Lys Arg His Gln Glu Glu Gln Gln Arg Lys Ala
      165            170            175

```

```

Lys Ala Glu Lys Glu Lys Arg Glu Arg Glu Glu Ala Glu Gln Gln Lys
      180            185            190

```

```

Arg Gln Gln Glu Glu Glu Glu Lys Arg Gln Val Asp Asn Gln Ile Lys
      195            200            205

```

```

Thr Leu Ile Ala Lys Ile Asp Glu Ile Asn Glu Asn Ile Asp Val Ile
      210            215            220

```

Lys Trp Gln Thr Thr Val Gly Pro Gln Gly Val Ile Asp Arg Ile Thr  
225 230 235 240

Gly Pro Val Tyr Asp Asp Phe Thr Asn Gly Asn Asn Ser Ile Arg Glu  
245 250 255

Thr Trp Glu Gly Leu Glu Glu Glu Ser Glu Asp Glu Gly Leu Gly Lys  
260 265 270

Leu Leu Lys Glu Leu Ser Asp Ala Arg Asp Ala Leu Arg Thr Lys Leu  
275 280 285

Asn Glu Gly Asn Lys Pro Tyr Thr Gly Tyr Glu Glu Pro Lys Leu Lys  
290 295 300

Glu Ser Val Asn Val Ser Glu Ile Lys Glu Asp Leu Glu Lys Leu Lys  
305 310 315 320

Ser Lys Leu Glu Glu Val Lys Lys Tyr Leu Lys Asp Ser Ser Lys Phe  
325 330 335

Glu Glu Ile Lys Gly Tyr Ile Ser Asp Ser Gln  
340 345

<210> 671

<211> 326

<212> PRT

<213> Homo sapiens

<400> 671

Cys Lys Asn Phe Ala Thr Gly Lys Asp Ile Lys Gln Asn Ser Glu Gly  
1 5 10 15

Lys Ile Lys Gly Phe Val Asn Lys Ile Leu Asp Pro Val Lys Asp Lys  
20 25 30

Ile Ala Ser Ser Gly Thr Lys Val Asp Glu Val Ala Lys Lys Leu Gln  
35 40 45

Glu Glu Glu Lys Glu Glu Leu Met Gln Gly Asp Asp Pro Asn Gly Ser  
50 55 60

Gly Ile Asn Pro Pro Pro Val Leu Pro Glu Asn Ile His Asn Asn Ala  
65 70 75 80

Leu Val Leu Lys Ala Ile Glu Gln Ser Asp Gly Gln Gln Glu Lys Lys  
85 90 95

Val Glu Glu Ala Glu Ala Lys Val Glu Glu Asn Lys Glu Lys Gln Glu  
100 105 110

Asn Thr Glu Glu Asn Ile Lys Glu Lys Glu Ile Ile Asp Glu Gln Asn  
115 120 125

Lys Gln Glu Leu Ala Lys Ala Lys Glu Glu Glu Gln Gln Lys Glu Gln  
130 135 140



Lys Arg His Gln Glu Glu Gln Gln Arg Lys Ala Lys Ala Glu Lys Glu  
145 150 155 160

Lys Arg Glu Arg Glu Glu Ala Glu Gln Gln Lys Arg Gln Gln Glu Glu  
165 170 175

Glu Glu Lys Arg Gln Val Asp Asn Gln Ile Lys Thr Leu Ile Ala Lys  
180 185 190

Ile Asp Glu Ile Asn Glu Asn Ile Asp Val Ile Lys Trp Gln Thr Thr  
195 200 205

Val Gly Pro Gln Gly Val Ile Asp Arg Ile Thr Gly Pro Val Tyr Asp  
210 215 220

Asp Phe Thr Asn Gly Asn Asn Ser Ile Arg Glu Thr Trp Glu Gly Leu  
225 230 235 240

Glu Glu Glu Ser Glu Asp Glu Gly Leu Gly Lys Leu Leu Lys Glu Leu  
245 250 255

Ser Asp Ala Arg Asp Ala Leu Arg Thr Lys Leu Asn Glu Gly Asn Lys  
260 265 270

Pro Tyr Thr Gly Tyr Glu Glu Pro Lys Leu Lys Glu Ser Val Asn Val  
275 280 285

Ser Glu Ile Lys Glu Asp Leu Glu Lys Leu Lys Ser Lys Leu Glu Glu  
290 295 300

Val Lys Lys Tyr Leu Lys Asp Ser Ser Lys Phe Glu Glu Ile Lys Gly  
305 310 315 320

Tyr Ile Ser Asp Ser Gln  
325

<210> 672

<211> 522

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (506)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (510)

<223> n equals a,t,g, or c

<400> 672

tgaatattaa taataaaaaa aggagtaaca atgaaaatca tcaacatatt attttgtata 60  
tctttgctac tactaaatag ctgtaattcc aatgataatg acactttaaa aaacaatgcc 120  
caacaaacaa aaagcaggaa aaaacgtgat ttaagccaag aagaactgcc acaacaagaa 180  
aaaatcactt taacatccga cgaagaaaaa atgtttactt cattaatcaa tgtgtttaaa 240  
tacacaattg aaaaattaaa caatgaaata caagggtgca tgaatggaaa caaaagtaaa 300  
tgtaatgact tctttgattg gctttctgaa gatattcaaa aacaaaaaga attagctggt 360

gctttttacca aggttttaca cttctttaaaa tcaaaagcac aaaatgaaac ttttgatact 420  
 tatattaaag gagctattga ttgtaaaaaa aacactccac aagattgtaa taaaaataat 480  
 gaaatatggg gaggtggaca acttantagn gcaatatttt ag 522

<210> 673

<211> 403

<212> DNA

<213> Homo sapiens

<400> 673

ctgtaattcc aatgataatg acacttttaaa aaacaatgcc caacaaacaa aaagcaggaa 60  
 aaaacgtgat ttaagccaag aagaactgcc acaacaagaa aaaatcactt taacatccga 120  
 cgaagaaaaa atgtttactt cattaatcaa tgtgttttaa tacacaattg aaaaattaaa 180  
 caatgaaata caagggtgca tgaatggaaa caaaagtaaa tgtaatgact tctttgattg 240  
 gctttctgaa gatattcaaa aacaaaaaga attagctggg gctttttacca aggttttaca 300  
 cttctttaaaa tcaaaagcac aaaatgaaac ttttgatact tatattaaag gagctattga 360  
 ttgtaaaaaa aacactccac aagattgtaa taaaaataat gaa 403

<210> 674

<211> 172

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (168)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (169)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 674

Ile Leu Ile Ile Lys Lys Gly Val Thr Met Lys Ile Ile Asn Ile Leu  
 1 5 10 15

Phe Cys Ile Ser Leu Leu Leu Leu Asn Ser Cys Asn Ser Asn Asp Asn  
 20 25 30

Asp Thr Leu Lys Asn Asn Ala Gln Gln Thr Lys Ser Arg Lys Lys Arg  
 35 40 45

Asp Leu Ser Gln Glu Glu Leu Pro Gln Gln Glu Lys Ile Thr Leu Thr  
 50 55 60

Ser Asp Glu Glu Lys Met Phe Thr Ser Leu Ile Asn Val Phe Lys Tyr  
 65 70 75 80

Thr Ile Glu Lys Leu Asn Asn Glu Ile Gln Gly Cys Met Asn Gly Asn  
 85 90 95

Lys Ser Lys Cys Asn Asp Phe Phe Asp Trp Leu Ser Glu Asp Ile Gln  
 100 105 110

Lys Gln Lys Glu Leu Ala Gly Ala Phe Thr Lys Val Tyr Asn Phe Leu  
 115 120 125

Lys Ser Lys Ala Gln Asn Glu Thr Phe Asp Thr Tyr Ile Lys Gly Ala  
 130 135 140

Ile Asp Cys Lys Lys Asn Thr Pro Gln Asp Cys Asn Lys Asn Asn Glu  
 145 150 155 160

Ile Trp Gly Gly Gly Gln Leu Xaa Xaa Ala Ile Phe  
 165 170

<210> 675

<211> 134

<212> PRT

<213> Homo sapiens

<400> 675

Cys Asn Ser Asn Asp Asn Asp Thr Leu Lys Asn Asn Ala Gln Gln Thr  
 1 5 10 15

Lys Ser Arg Lys Lys Arg Asp Leu Ser Gln Glu Glu Leu Pro Gln Gln  
 20 25 30

Glu Lys Ile Thr Leu Thr Ser Asp Glu Glu Lys Met Phe Thr Ser Leu  
 35 40 45

Ile Asn Val Phe Lys Tyr Thr Ile Glu Lys Leu Asn Asn Glu Ile Gln  
 50 55 60

Gly Cys Met Asn Gly Asn Lys Ser Lys Cys Asn Asp Phe Phe Asp Trp  
 65 70 75 80

Leu Ser Glu Asp Ile Gln Lys Gln Lys Glu Leu Ala Gly Ala Phe Thr  
 85 90 95

Lys Val Tyr Asn Phe Leu Lys Ser Lys Ala Gln Asn Glu Thr Phe Asp  
 100 105 110

Thr Tyr Ile Lys Gly Ala Ile Asp Cys Lys Lys Asn Thr Pro Gln Asp  
 115 120 125

Cys Asn Lys Asn Asn Glu  
 130

<210> 676

<211> 1605

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (1535)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (1567)

<223> n equals a,t,g, or c

<220>

<221> misc feature  
 <222> (1571)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (1593)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (1594)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (1599)  
 <223> n equals a,t,g, or c

<400> 676  
 taaatgttca aaacaatcat taaacaaaaa aatatgaaaa aaatttcaag tgcaatttta 60  
 ttaacaactt tctttgtttt tattaattgt aaaagccaag ttgctgataa ggcgagtgtg 120  
 acggggattg ctaagggaat aaaggagatt gttgaagctg ctggggggag tgaaaagctg 180  
 aaagtgtctg ctgctgaagg ggagaataat gaaaaggcag ggaagttgtt tgggaaggct 240  
 ggtgctggta atgctgggga cagtgaggct gctagcaagg cggctggtgc tgtagtgct 300  
 gttagtgggg agcagatatt aagtgcgatt gttaaggctg ctggtgaggc tgcgcaggat 360  
 ggagagaagc ctggggaggc taaaaatccg attgctgctg ctattgggaa gggtaatgag 420  
 gatggtgcgg agtttaagga tgagatgaag aaggatgatc agattgctgc tgctattgct 480  
 ttgaggggga tggctaagga tggaaagttt gctgtgaaga atgatgagaa agggaaggct 540  
 gagggggcta ttaagggagc tggcgagttg ttggataagc tggtaaaagc tgtaaagaca 600  
 gctgaggggg cttcaagtgg tactgctgca attggagaag ttgtggctga tgataatgct 660  
 gcgaaggttg ctgataaggc gagtgtgaag gggattgcta aggggataaa ggagattggt 720  
 gaagctgctg gggggagtaa aaagctgaaa gttgctgctg ctaaagaggg caatgaaaag 780  
 gcagggaagt tgtttgggaa agttgatgct gctcatgctg gggacagtga ggctgctagc 840  
 aaggcggctg gtgctgttag tgctgttagt ggggagcaga tattaagtgc gattgttaag 900  
 gctgctggtg cggctgctgg tgatcaggag ggaaagaagc ctggggatgc taaaaatccg 960  
 attgctgctg ctattgggaa gggatgatgc gagaatgggt cggagtttaa tcatgatggg 1020  
 atgaagaagg atgatcagat tgctgctgct attgctttga gggggatggc taaggatgga 1080  
 aagtttgctg tgaagagtgg tgggtggtgag aaaggggaagg ctgagggggc tattaaggga 1140  
 gctgctgagt tgttgataa gctggtaaaa gctgtaaaaga cagctgaggg ggcttcaagt 1200  
 ggtactgatg caattggaga agttgtggct aatgctggtg ctgcaaaggt tgctgataag 1260  
 gcgagtgtga cggggattgc taaggggata aaggagattg ttgaagctgc tggggggagt 1320  
 gaaaagctga aagttgctgc tgctacaggg gagagtaata aaggggcagg gaagttgttt 1380  
 gggaaggctg gtgctggtgc taatgctggg gacagtgagg ctgctagcaa ggcggctggt 1440  
 gctgttagtg ctgttagtgg ggagcagata ttaagtgcga ttgttaaggc tgctgatgcg 1500  
 gctgatcagg agggaaagaa gcctggggat gctanaaatc cgattgctgc tgctattggg 1560  
 aagggtnatg nggagaatgg tgcggagttt aannatgang gatga 1605

<210> 677  
 <211> 469  
 <212> DNA  
 <213> Homo sapiens

<400> 677  
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 gattgttgaa gctgctgggg ggagtgaata gctgaaagtt gctgctgctg aaggggagaa 120  
 taatgaaaag gcagggaagt tgtttgggaa ggctggtgct ggtaattgctg gggacagtga 180  
 ggctgctagc aaggcggctg gtgctgttag tgctgttagt ggggagcaga tattaagtgc 240

```

gattgttaag gctgctggtg aggctgcgca ggatggagag aagcctgggg aggctaaaaa 300
tccgattgct gctgctattg ggaagggtaa tgaggatggt gcggagttta aggatgagat 360
gaagaaggat gatcagattg ctgctgctat tgctttgagg gggatggcta aggatggaaa 420
gtttgctgtg aagaatgatg agaaaggga ggctgagggg gctattaag 469

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<210> 678

<211> 533

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (511)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (522)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (523)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (530)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (531)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (532)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 678

```

Met Phe Lys Thr Ile Ile Lys Gln Lys Asn Met Lys Lys Ile Ser Ser
  1           5           10           15

```

```

Ala Ile Leu Leu Thr Thr Phe Phe Val Phe Ile Asn Cys Lys Ser Gln
      20           25           30

```

```

Val Ala Asp Lys Ala Ser Val Thr Gly Ile Ala Lys Gly Ile Lys Glu
    35           40           45

```

```

Ile Val Glu Ala Ala Gly Gly Ser Glu Lys Leu Lys Val Ala Ala Ala
    50           55           60

```

```

Glu Gly Glu Asn Asn Glu Lys Ala Gly Lys Leu Phe Gly Lys Ala Gly
    65           70           75           80

```

```

Ala Gly Asn Ala Gly Asp Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala
      85           90           95

```

Val	Ser	Ala	Val	Ser	Gly	Glu	Gln	Ile	Leu	Ser	Ala	Ile	Val	Lys	Ala		
			100					105					110				
Ala	Gly	Glu	Ala	Ala	Gln	Asp	Gly	Glu	Lys	Pro	Gly	Glu	Ala	Lys	Asn		
		115					120					125					
Pro	Ile	Ala	Ala	Ala	Ile	Gly	Lys	Gly	Asn	Glu	Asp	Gly	Ala	Glu	Phe		
	130					135					140						
Lys	Asp	Glu	Met	Lys	Lys	Asp	Asp	Gln	Ile	Ala	Ala	Ala	Ile	Ala	Leu		
145					150					155					160		
Arg	Gly	Met	Ala	Lys	Asp	Gly	Lys	Phe	Ala	Val	Lys	Asn	Asp	Glu	Lys		
				165					170					175			
Gly	Lys	Ala	Glu	Gly	Ala	Ile	Lys	Gly	Ala	Gly	Glu	Leu	Leu	Asp	Lys		
		180						185					190				
Leu	Val	Lys	Ala	Val	Lys	Thr	Ala	Glu	Gly	Ala	Ser	Ser	Gly	Thr	Ala		
		195					200					205					
Ala	Ile	Gly	Glu	Val	Val	Ala	Asp	Asp	Asn	Ala	Ala	Lys	Val	Ala	Asp		
	210					215					220						
Lys	Ala	Ser	Val	Lys	Gly	Ile	Ala	Lys	Gly	Ile	Lys	Glu	Ile	Val	Glu		
225					230					235					240		
Ala	Ala	Gly	Gly	Ser	Lys	Lys	Leu	Lys	Val	Ala	Ala	Ala	Lys	Glu	Gly		
				245					250					255			
Asn	Glu	Lys	Ala	Gly	Lys	Leu	Phe	Gly	Lys	Val	Asp	Ala	Ala	His	Ala		
			260					265					270				
Gly	Asp	Ser	Glu	Ala	Ala	Ser	Lys	Ala	Ala	Gly	Ala	Val	Ser	Ala	Val		
		275					280					285					
Ser	Gly	Glu	Gln	Ile	Leu	Ser	Ala	Ile	Val	Lys	Ala	Ala	Gly	Ala	Ala		
	290					295					300						
Ala	Gly	Asp	Gln	Glu	Gly	Lys	Lys	Pro	Gly	Asp	Ala	Lys	Asn	Pro	Ile		
305					310					315				320			
Ala	Ala	Ala	Ile	Gly	Lys	Gly	Asp	Ala	Glu	Asn	Gly	Ala	Glu	Phe	Asn		
				325					330					335			
His	Asp	Gly	Met	Lys	Lys	Asp	Asp	Gln	Ile	Ala	Ala	Ala	Ile	Ala	Leu		
			340					345					350				
Arg	Gly	Met	Ala	Lys	Asp	Gly	Lys	Phe	Ala	Val	Lys	Ser	Gly	Gly	Gly		
		355					360					365					
Glu	Lys	Gly	Lys	Ala	Glu	Gly	Ala	Ile	Lys	Gly	Ala	Ala	Glu	Leu	Leu		
	370					375					380						
Asp	Lys	Leu	Val	Lys	Ala	Val	Lys	Thr	Ala	Glu	Gly	Ala	Ser	Ser	Gly		
385					390					395					400		

Thr Asp Ala Ile Gly Glu Val Val Ala Asn Ala Gly Ala Ala Lys Val  
405 410 415

Ala Asp Lys Ala Ser Val Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile  
420 425 430

Val Glu Ala Ala Gly Gly Ser Glu Lys Leu Lys Val Ala Ala Ala Thr  
435 440 445

Gly Glu Ser Asn Lys Gly Ala Gly Lys Leu Phe Gly Lys Ala Gly Ala  
450 455 460

Gly Ala Asn Ala Gly Asp Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala  
465 470 475 480

Val Ser Ala Val Ser Gly Glu Gln Ile Leu Ser Ala Ile Val Lys Ala  
485 490 495

Ala Asp Ala Ala Asp Gln Glu Gly Lys Lys Pro Gly Asp Ala Xaa Asn  
500 505 510

Pro Ile Ala Ala Ala Ile Gly Lys Gly Xaa Xaa Glu Asn Gly Ala Glu  
515 520 525

Phe Xaa Xaa Xaa Gly  
530

<210> 679

<211> 156

<212> PRT

<213> Homo sapiens

<400> 679

Cys Lys Ser Gln Val Ala Asp Lys Ala Ser Val Thr Gly Ile Ala Lys  
1 5 10 15

Gly Ile Lys Glu Ile Val Glu Ala Ala Gly Gly Ser Glu Lys Leu Lys  
20 25 30

Val Ala Ala Ala Glu Gly Glu Asn Asn Glu Lys Ala Gly Lys Leu Phe  
35 40 45

Gly Lys Ala Gly Ala Gly Asn Ala Gly Asp Ser Glu Ala Ala Ser Lys  
50 55 60

Ala Ala Gly Ala Val Ser Ala Val Ser Gly Glu Gln Ile Leu Ser Ala  
65 70 75 80

Ile Val Lys Ala Ala Gly Glu Ala Ala Gln Asp Gly Glu Lys Pro Gly  
85 90 95

Glu Ala Lys Asn Pro Ile Ala Ala Ala Ile Gly Lys Gly Asn Glu Asp  
100 105 110

Gly Ala Glu Phe Lys Asp Glu Met Lys Lys Asp Asp Gln Ile Ala Ala  
115 120 125

Ala Ile Ala Leu Arg Gly Met Ala Lys Asp Gly Lys Phe Ala Val Lys

130

135

140

Asn Asp Glu Lys Gly Lys Ala Glu Gly Ala Ile Lys  
 145 150 155

<210> 680  
 <211> 1125  
 <212> DNA  
 <213> Homo sapiens

<400> 680  
 tagaaattca aaacaaagga gaaaacaaaa agtatgaata aaaaaatatt gattatTTTT 60  
 gctgtTTTTg cacttataat ttcttgtaaa aattatgcaa ctggtaaaga tataaaacaa 120  
 aatgcaaaag ggaaaattaa aggattttta gataaggttt tagatccagc aaaagataaa 180  
 attacttcaa gtagttcaaa agtagatgaa ttagcaaaaa aattacaaga agaagatgaa 240  
 gataatgaat taatgcaggg cgatgatcct aataacagag caatagcact gttaccagta 300  
 ttgccggaaa atagtcatga caatccacca gtacccaaaag taaaagcagc agcacaaaagt 360  
 ggtggtcaac aagaagacca aaaagcaaaa gaatctaaag ataaagttga ggaagaaaaa 420  
 gaagttgtag aggagaaaaa agaagaacaa gatagtaaaa aagaaaaagt ggagaagcaa 480  
 agtcaaaagc aaaaagaaga agagagaaac tctaaagaag aacaacaaaa acaagaagaa 540  
 gcaaaagcta gagcagatag agaaaagaaa gaacgactaa aacaacaaga acaaaaaaga 600  
 caacaggaag aagctagggg taaagcagaa aaagaaaaac aagaaagaga ggaacaacaa 660  
 aaacaagaag aagaaaaaga agttaaatat aaaattaaaa cacttacaga caaaatagat 720  
 gaaataaata aggatattga tggatataat ggtaaaacaa ttgtaggagc agaagaagtt 780  
 atagataaaa ttacggggcc tgtatatgat gattttactg atgggaataa agctatatat 840  
 aaaacttggg gagattttaga ggatgaagaa ggcgagaagt taggaaaatt attgaaagaa 900  
 ttgagtgata ctagacataa tttaaagaac aaattaaatg agggtaataa agcatatatt 960  
 gttctagaaa aggagcctaa tttaaaagaa aatgtaaatg ttagtgatat tcaatcagat 1020  
 ttagaaaaat taaaatcagg attagaagaa gttaaaaaat attttgaaa tgaagataat 1080  
 tttgaagaaa ttaaaggata cattgaggat agtaattcat attga 1125

<210> 681  
 <211> 1039  
 <212> DNA  
 <213> Homo sapiens

<400> 681  
 ttgtaaaaat tatgcaactg gtaaagatat aaaacaaaaat gcaaaaaggga aaattaaagg 60  
 atttttagat aaggtttttag atccagcaaa agataaaatt acttcaagta gttcaaaaagt 120  
 agatgaatta gcaaaaaaat tacaagaaga agatgaagat aatgaattaa tgcagggcga 180  
 tgatcctaata aacagagcaa tagcactggt accagtattg ccggaaaata gtcatgacaa 240  
 tccaccagta ccaaaagtaa aagcagcagc acaaaagtggg ggtcaacaag aagaccacaaa 300  
 agcaaaaagaa tctaaagata aagttgagga agaaaaagaa gttgtagagg agaaaaaaga 360  
 agaacaagat agtaaaaaag aaaaagtggg gaagcaaaagt caaaagcaaa aagaagaaga 420  
 gagaaactct aaagaagaac aacaaaaaca agaagaagca aaagctagag cagatagaga 480  
 aagagaagaa cgactaaaac aacaagaaca aaaaagacaa caggaagaag ctagggttaa 540  
 agcagaaaaa gaaaaacaag aaagagagga acaacaaaaa caagaagaag aaaaagaaagt 600  
 taaatataaaa attaaaacac ttacagacaa aatagatgaa ataaataagg atattgatgg 660  
 tataaatggt aaaacaattg taggagcaga agaagttata gataaaatta cggggcctgt 720  
 atatgatgat tttactgatg ggaataaagc tatatacaaa acttggggag atttagagga 780  
 tgaagaaggc gaagaattag gaaaattatt gaaagaattg agtgatacta gacataatTT 840  
 aagaacccaaa ttaaatgagg gtaataaagc atatattggt ctagaaaagg agcctaattt 900  
 aaaagaaaaat gtaaatgtta gtgatattca atcagattta gaaaaattaa aatcaggatt 960  
 agaagaagtt aaaaaatatt ttgaaaatga agataatttt gaagaaatta aaggatacat 1020  
 tgaggatagt aattcatat 1039

<210> 682  
 <211> 373



&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 682

Lys Phe Lys Thr Lys Glu Lys Thr Lys Ser Met Asn Lys Lys Ile Leu  
 1 5 10 15

Ile Ile Phe Ala Val Phe Ala Leu Ile Ile Ser Cys Lys Asn Tyr Ala  
 20 25 30

Thr Gly Lys Asp Ile Lys Gln Asn Ala Lys Gly Lys Ile Lys Gly Phe  
 35 40 45

Leu Asp Lys Val Leu Asp Pro Ala Lys Asp Lys Ile Thr Ser Ser Ser  
 50 55 60

Ser Lys Val Asp Glu Leu Ala Lys Lys Leu Gln Glu Glu Asp Glu Asp  
 65 70 75 80

Asn Glu Leu Met Gln Gly Asp Asp Pro Asn Asn Arg Ala Ile Ala Leu  
 85 90 95

Leu Pro Val Leu Pro Glu Asn Ser His Asp Asn Pro Pro Val Pro Lys  
 100 105 110

Val Lys Ala Ala Ala Gln Ser Gly Gly Gln Gln Glu Asp Gln Lys Ala  
 115 120 125

Lys Glu Ser Lys Asp Lys Val Glu Glu Glu Lys Glu Val Val Glu Glu  
 130 135 140

Lys Lys Glu Glu Gln Asp Ser Lys Lys Glu Lys Val Glu Lys Gln Ser  
 145 150 155 160

Gln Lys Gln Lys Glu Glu Glu Arg Asn Ser Lys Glu Glu Gln Gln Lys  
 165 170 175

Gln Glu Glu Ala Lys Ala Arg Ala Asp Arg Glu Arg Glu Glu Arg Leu  
 180 185 190

Lys Gln Gln Glu Gln Lys Arg Gln Gln Glu Glu Ala Arg Val Lys Ala  
 195 200 205

Glu Lys Glu Lys Gln Glu Arg Glu Glu Gln Gln Lys Gln Glu Glu Glu  
 210 215 220

Lys Lys Val Lys Tyr Lys Ile Lys Thr Leu Thr Asp Lys Ile Asp Glu  
 225 230 235 240

Ile Asn Lys Asp Ile Asp Gly Ile Asn Gly Lys Thr Ile Val Gly Ala  
 245 250 255

Glu Glu Val Ile Asp Lys Ile Thr Gly Pro Val Tyr Asp Asp Phe Thr  
 260 265 270

Asp Gly Asn Lys Ala Ile Tyr Lys Thr Trp Gly Asp Leu Glu Asp Glu  
 275 280 285

Glu Gly Glu Glu Leu Gly Lys Leu Leu Lys Glu Leu Ser Asp Thr Arg  
290 295 300

His Asn Leu Arg Thr Lys Leu Asn Glu Gly Asn Lys Ala Tyr Ile Val  
305 310 315 320

Leu Glu Lys Glu Pro Asn Leu Lys Glu Asn Val Asn Val Ser Asp Ile  
325 330 335

Gln Ser Asp Leu Glu Lys Leu Lys Ser Gly Leu Glu Glu Val Lys Lys  
340 345 350

Tyr Phe Glu Asn Glu Asp Asn Phe Glu Glu Ile Lys Gly Tyr Ile Glu  
355 360 365

Asp Ser Asn Ser Tyr  
370

<210> 683

<211> 346

<212> PRT

<213> Homo sapiens

<400> 683

Cys Lys Asn Tyr Ala Thr Gly Lys Asp Ile Lys Gln Asn Ala Lys Gly  
1 5 10 15

Lys Ile Lys Gly Phe Leu Asp Lys Val Leu Asp Pro Ala Lys Asp Lys  
20 25 30

Ile Thr Ser Ser Ser Ser Lys Val Asp Glu Leu Ala Lys Lys Leu Gln  
35 40 45

Glu Glu Asp Glu Asp Asn Glu Leu Met Gln Gly Asp Asp Pro Asn Asn  
50 55 60

Arg Ala Ile Ala Leu Leu Pro Val Leu Pro Glu Asn Ser His Asp Asn  
65 70 75 80

Pro Pro Val Pro Lys Val Lys Ala Ala Ala Gln Ser Gly Gly Gln Gln  
85 90 95

Glu Asp Gln Lys Ala Lys Glu Ser Lys Asp Lys Val Glu Glu Glu Lys  
100 105 110

Glu Val Val Glu Glu Lys Lys Glu Glu Gln Asp Ser Lys Lys Glu Lys  
115 120 125

Val Glu Lys Gln Ser Gln Lys Gln Lys Glu Glu Glu Arg Asn Ser Lys  
130 135 140

Glu Glu Gln Gln Lys Gln Glu Glu Ala Lys Ala Arg Ala Asp Arg Glu  
145 150 155 160

Arg Glu Glu Arg Leu Lys Gln Gln Glu Gln Lys Arg Gln Gln Glu Glu  
165 170 175

Ala Arg Val Lys Ala Glu Lys Glu Lys Gln Glu Arg Glu Glu Gln Gln

180	185	190
Lys Gln Glu Glu Glu Lys Lys Val Lys Tyr Lys Ile Lys Thr Leu Thr		
195	200	205
Asp Lys Ile Asp Glu Ile Asn Lys Asp Ile Asp Gly Ile Asn Gly Lys		
210	215	220
Thr Ile Val Gly Ala Glu Glu Val Ile Asp Lys Ile Thr Gly Pro Val		
225	230	235
Tyr Asp Asp Phe Thr Asp Gly Asn Lys Ala Ile Tyr Lys Thr Trp Gly		
245	250	255
Asp Leu Glu Asp Glu Glu Gly Glu Glu Leu Gly Lys Leu Leu Lys Glu		
260	265	270
Leu Ser Asp Thr Arg His Asn Leu Arg Thr Lys Leu Asn Glu Gly Asn		
275	280	285
Lys Ala Tyr Ile Val Leu Glu Lys Glu Pro Asn Leu Lys Glu Asn Val		
290	295	300
Asn Val Ser Asp Ile Gln Ser Asp Leu Glu Lys Leu Lys Ser Gly Leu		
305	310	315
Glu Glu Val Lys Lys Tyr Phe Glu Asn Glu Asp Asn Phe Glu Glu Ile		
325	330	335
Lys Gly Tyr Ile Glu Asp Ser Asn Ser Tyr		
340	345	

<210> 684  
 <211> 696  
 <212> DNA  
 <213> Homo sapiens

<400> 684  
 taacttatga ataagaaaat gaaaatgttt attattttgtg ctgttttttgc attgatgatt 60  
 tcttgcaaga attatgcaag tgggtgaaaat ctaaaaaatt cagaacaaaa tctagaaaagt 120  
 tcagaacaaa atgtaaaaaa aacagaacaa gagataaaaa aacaagttga aggatttttta 180  
 gaaattctag agacaaaaga tttatctaaa ttagatgaaa aagatacaaa agaaattgaa 240  
 aaacaaattc aagaattaaa gaataaaaata gaaaaattag attctaaaaa aacttctatt 300  
 gaaacatatt ctgagtatga agaaaaaata aacaaaataa aagaaaaatt gaaaggaaaa 360  
 ggacttgaag ataaatttaa ggagcttgaa gagagtttag caaagaaaaa ggggggagaga 420  
 aaaaaagctt tacaagaggc caaacagaaa tttgaagaat ataaaaaaca agtagatact 480  
 tcaactggga aaactcaagg cgacaggtct aaaaaccgag gtggtgttgg agtgcaagct 540  
 tggcagtgtg ccaatgaatt aggtttgggt gtaagttatt ctaatggcgg cagtgacaac 600  
 agcaatactg atgaattagc aaacaaagtt atagatgatt ctcttaaaaa gattgaagaa 660  
 gaacttaagg gaatagaaga agataaaaaa gaataa 696

<210> 685  
 <211> 631  
 <212> DNA  
 <213> Homo sapiens

<400> 685  
 ttgcaagaat tatgcaagtg gtgaaaatct aaaaaattca gaacaaaatc tagaaagttc 60

```

agaacaaaat gtaaaaaaaaaa cagaacaaga gataaaaaaaaa caagttgaag gatttttaga 120
aattctagag acaaaaagatt tatctaaatt agatgaaaaa gatacaaaaag aaattgaaaa 180
acaaattcaa gaattaaaga ataaaataga aaaattagat tctaaaaaaa cttctattga 240
aacatattct gagtatgaag aaaaaataaa caaaataaaa gaaaaattga aaggaaaagg 300
acttgaagat aaatttaagg agcttgaaga gagtttagca aagaaaaagg gggagagaaa 360
aaaagcttta caagaggcca aacagaaatt tgaagaatat aaaaaacaag tagatacttc 420
aactgggaaa actcaaggcg acaggtctaa aaaccgaggt ggtggttgag tgcaagcttg 480
gcagtgtgcc aatgaattag gtttgggtgt aagttattct aatggcggca gtgacaacag 540
caatactgat gaattagcaa acaaagttat agatgattct cttaaaaaga ttgaagaaga 600
acttaaggga atagaagaag ataaaaaaga a                                     631

```

<210> 686

<211> 230

<212> PRT

<213> Homo sapiens

<400> 686

```

Leu Met Asn Lys Lys Met Lys Met Phe Ile Ile Cys Ala Val Phe Ala
  1             5             10             15

```

```

Leu Met Ile Ser Cys Lys Asn Tyr Ala Ser Gly Glu Asn Leu Lys Asn
          20             25             30

```

```

Ser Glu Gln Asn Leu Glu Ser Ser Glu Gln Asn Val Lys Lys Thr Glu
          35             40             45

```

```

Gln Glu Ile Lys Lys Gln Val Glu Gly Phe Leu Glu Ile Leu Glu Thr
          50             55             60

```

```

Lys Asp Leu Ser Lys Leu Asp Glu Lys Asp Thr Lys Glu Ile Glu Lys
          65             70             75             80

```

```

Gln Ile Gln Glu Leu Lys Asn Lys Ile Glu Lys Leu Asp Ser Lys Lys
          85             90             95

```

```

Thr Ser Ile Glu Thr Tyr Ser Glu Tyr Glu Glu Lys Ile Asn Lys Ile
          100            105            110

```

```

Lys Glu Lys Leu Lys Gly Lys Gly Leu Glu Asp Lys Phe Lys Glu Leu
          115            120            125

```

```

Glu Glu Ser Leu Ala Lys Lys Lys Gly Glu Arg Lys Lys Ala Leu Gln
          130            135            140

```

```

Glu Ala Lys Gln Lys Phe Glu Glu Tyr Lys Lys Gln Val Asp Thr Ser
          145            150            155            160

```

```

Thr Gly Lys Thr Gln Gly Asp Arg Ser Lys Asn Arg Gly Gly Val Gly
          165            170            175

```

```

Val Gln Ala Trp Gln Cys Ala Asn Glu Leu Gly Leu Gly Val Ser Tyr
          180            185            190

```

```

Ser Asn Gly Gly Ser Asp Asn Ser Asn Thr Asp Glu Leu Ala Asn Lys
          195            200            205

```

```

Val Ile Asp Asp Ser Leu Lys Lys Ile Glu Glu Glu Leu Lys Gly Ile
          210            215            220

```

Glu Glu Asp Lys Lys Glu  
225 230

<210> 687  
<211> 210  
<212> PRT  
<213> Homo sapiens

<400> 687  
Cys Lys Asn Tyr Ala Ser Gly Glu Asn Leu Lys Asn Ser Glu Gln Asn  
1 5 10 15

Leu Glu Ser Ser Glu Gln Asn Val Lys Lys Thr Glu Gln Glu Ile Lys  
20 25 30

Lys Gln Val Glu Gly Phe Leu Glu Ile Leu Glu Thr Lys Asp Leu Ser  
35 40 45

Lys Leu Asp Glu Lys Asp Thr Lys Glu Ile Glu Lys Gln Ile Gln Glu  
50 55 60

Leu Lys Asn Lys Ile Glu Lys Leu Asp Ser Lys Lys Thr Ser Ile Glu  
65 70 75 80

Thr Tyr Ser Glu Tyr Glu Glu Lys Ile Asn Lys Ile Lys Glu Lys Leu  
85 90 95

Lys Gly Lys Gly Leu Glu Asp Lys Phe Lys Glu Leu Glu Glu Ser Leu  
100 105 110

Ala Lys Lys Lys Gly Glu Arg Lys Lys Ala Leu Gln Glu Ala Lys Gln  
115 120 125

Lys Phe Glu Glu Tyr Lys Lys Gln Val Asp Thr Ser Thr Gly Lys Thr  
130 135 140

Gln Gly Asp Arg Ser Lys Asn Arg Gly Gly Val Gly Val Gln Ala Trp  
145 150 155 160

Gln Cys Ala Asn Glu Leu Gly Leu Gly Val Ser Tyr Ser Asn Gly Gly  
165 170 175

Ser Asp Asn Ser Asn Thr Asp Glu Leu Ala Asn Lys Val Ile Asp Asp  
180 185 190

Ser Leu Lys Lys Ile Glu Glu Glu Leu Lys Gly Ile Glu Glu Asp Lys  
195 200 205

Lys Glu  
210

<210> 688  
<211> 1083  
<212> DNA  
<213> Homo sapiens

<400> 688

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taattgtttg gggttgtggt aaacttaagg cttatggagt ggattatgaa taaaaaaatg 60
aaaatattta ttatttgtgc tgtatttgtg ctgataagtt cttgcaagat tgatgcaact 120
ggtaaagatg caactggtaa agatgcaact ggtaaagatg caactggtaa agatgcaact 180
ggtaaaaatg cagaacaaaa tataaaaggg aaagttcaag gattttttaga aaagatttta 240
gatccagtaa aggataaaat tgcttcaa atggtccaatag cagatgaatt ggcaaaaaaa 300
ttacaagaag aagaaaagggt aaataacggg gaagaagaaa atgataaagc tgtcttttta 360
ggagaagaat caaaagagga tgaagaagaa aatgagcaag ctgttaattt agaagaaaaa 420
aatgcggaag aggataagaa agttgtta attagaagaga aagaattaga agttaaaaaa 480
gagactgaag aagatgaaga taaagaagaa atagagaaac aaaaacaaga agtggaaaaa 540
gcacaagaaa gaaaacaacg acaagaagaa aagaaacgaa aaaaacaaga acagcaagaa 600
gaaaagaaac gaaaacgaca agaacaagaa aaagaaagga gagctaaaaa caaaatttaa 660
aaacttgcgg ataaaaataga tgagataagt tgggaatatt atggtataga aagtcaaaca 720
agtgtaaaac cgaaagcagt tatagataaa attacggggc ctgtatatga ttattttacc 780
gatgacaaca aaaaagctat atataaaaca tggggagatt tagaagatga agaaggcgaa 840
ggattgggaa aattattgaa agaattgagt gatactagag atgagttaag aaccaaaatta 900
aataaagata ataaaaaata ttatgccc atgaaatgagc ctctctctaaa agaaaatgta 960
gatgtcagcg aaattaaaga agatttagaa aaagtaaaat caggattaga aaaggttaa 1020
gaatatctta aagacaattc taaatttgaa gaaattaaag gatacatcag ttacagtcag 1080
taa

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<210> 689  
 <211> 979  
 <212> DNA  
 <213> Homo sapiens

```

<400> 689
ttgcaagatt gatgcaactg gtaaagatgc aactggtaaa gatgcaactg gtaaagatgc 60
aactggtaaa gatgcaactg gtaaaaatgc agaacaaaat ataaaagggg aagttcaagg 120
atTTTTtagaa aagatttttag atccagtaaa ggataaaaatt gcttcaa atggtcaaatagc 180
agatgaattg gcaaaaaaat tacaagaaga agaaaaggta aataacgggg aagaagaaaa 240
tgataaagct gtcttttttag gagaagaatc aaaagaggat gaagaagaaa atgagcaagc 300
tgttaattta gaagaaaaaa atgcggaaga ggataagaaa gttgttaatt tagaagagaa 360
agaattagaa gttaaaaaaag agactgaaga agatgaagat aaagaagaaa tagagaaaca 420
aaaacaagaa gtggaaaaaag cacaagaagaa aaaacaacga caagaagaaa agaaacgaaa 480
aaaacaagaa cagcaagaag aaaagaaacg aaaacgacaa gaacaaagaa aagaaaggag 540
agctaaaaac aaaattaaaa aacttgcgga taaaatagat gagataagtt ggaatattga 600
tggtatagaa agtcaaacaag gtgtaaaacc gaaagcagtt atagataaaa ttacgggggcc 660
tgtatatgat tattttaccg atgacaacaa aaaagctata tataaaacat ggggagattt 720
agaagatgaa gaaggcgaag gattgggaaa attattgaaa gaattgagtg atactagaga 780
tgagttaaga accaaattaa ataaagataa taaaaaatat tatgccc atgaaaatgagcc 840
tcctctaaaa gaaaatgtag atgtcagcga aattaaagaa gatttagaaa aagtaaaatc 900
aggattagaa aaggttaaag aatatcttaa agacaattct aaatttgaag aaattaaagg 960
atacatcagt tacagtcag

```

<210> 690  
 <211> 359  
 <212> PRT  
 <213> Homo sapiens

```

<400> 690
Leu Phe Gly Val Val Asn Leu Arg Leu Met Glu Trp Ile Met Asn
 1             5             10            15
Lys Lys Met Lys Ile Phe Ile Ile Cys Ala Val Phe Val Leu Ile Ser
          20            25            30
Ser Cys Lys Ile Asp Ala Thr Gly Lys Asp Ala Thr Gly Lys Asp Ala
      35            40            45

```

Thr Gly Lys Asp Ala Thr Gly Lys Asp Ala Thr Gly Lys Asn Ala Glu  
 50 55 60  
 Gln Asn Ile Lys Gly Lys Val Gln Gly Phe Leu Glu Lys Ile Leu Asp  
 65 70 75 80  
 Pro Val Lys Asp Lys Ile Ala Ser Asn Gly Pro Ile Ala Asp Glu Leu  
 85 90 95  
 Ala Lys Lys Leu Gln Glu Glu Glu Lys Val Asn Asn Gly Glu Glu Glu  
 100 105 110  
 Asn Asp Lys Ala Val Phe Leu Gly Glu Glu Ser Lys Glu Asp Glu Glu  
 115 120 125  
 Glu Asn Glu Gln Ala Val Asn Leu Glu Glu Lys Asn Ala Glu Glu Asp  
 130 135 140  
 Lys Lys Val Val Asn Leu Glu Glu Lys Glu Leu Glu Val Lys Lys Glu  
 145 150 155 160  
 Thr Glu Glu Asp Glu Asp Lys Glu Glu Ile Glu Lys Gln Lys Gln Glu  
 165 170 175  
 Val Glu Lys Ala Gln Glu Arg Lys Gln Arg Gln Glu Glu Lys Lys Arg  
 180 185 190  
 Lys Lys Gln Glu Gln Gln Glu Glu Lys Lys Arg Lys Arg Gln Glu Gln  
 195 200 205  
 Arg Lys Glu Arg Arg Ala Lys Asn Lys Ile Lys Lys Leu Ala Asp Lys  
 210 215 220  
 Ile Asp Glu Ile Ser Trp Asn Ile Asp Gly Ile Glu Ser Gln Thr Ser  
 225 230 235 240  
 Val Lys Pro Lys Ala Val Ile Asp Lys Ile Thr Gly Pro Val Tyr Asp  
 245 250 255  
 Tyr Phe Thr Asp Asp Asn Lys Lys Ala Ile Tyr Lys Thr Trp Gly Asp  
 260 265 270  
 Leu Glu Asp Glu Glu Gly Glu Gly Leu Gly Lys Leu Leu Lys Glu Leu  
 275 280 285  
 Ser Asp Thr Arg Asp Glu Leu Arg Thr Lys Leu Asn Lys Asp Asn Lys  
 290 295 300  
 Lys Tyr Tyr Ala His Glu Asn Glu Pro Pro Leu Lys Glu Asn Val Asp  
 305 310 315 320  
 Val Ser Glu Ile Lys Glu Asp Leu Glu Lys Val Lys Ser Gly Leu Glu  
 325 330 335  
 Lys Val Lys Glu Tyr Leu Lys Asp Asn Ser Lys Phe Glu Glu Ile Lys  
 340 345 350

Gly Tyr Ile Ser Tyr Ser Gln  
355

<210> 691

<211> 326

<212> PRT

<213> Homo sapiens

<400> 691

Cys Lys Ile Asp Ala Thr Gly Lys Asp Ala Thr Gly Lys Asp Ala Thr  
1 5 10 15

Gly Lys Asp Ala Thr Gly Lys Asp Ala Thr Gly Lys Asn Ala Glu Gln  
20 25 30

Asn Ile Lys Gly Lys Val Gln Gly Phe Leu Glu Lys Ile Leu Asp Pro  
35 40 45

Val Lys Asp Lys Ile Ala Ser Asn Gly Pro Ile Ala Asp Glu Leu Ala  
50 55 60

Lys Lys Leu Gln Glu Glu Glu Lys Val Asn Asn Gly Glu Glu Glu Asn  
65 70 75 80

Asp Lys Ala Val Phe Leu Gly Glu Glu Ser Lys Glu Asp Glu Glu Glu  
85 90 95

Asn Glu Gln Ala Val Asn Leu Glu Glu Lys Asn Ala Glu Glu Asp Lys  
100 105 110

Lys Val Val Asn Leu Glu Glu Lys Glu Leu Glu Val Lys Lys Glu Thr  
115 120 125

Glu Glu Asp Glu Asp Lys Glu Glu Ile Glu Lys Gln Lys Gln Glu Val  
130 135 140

Glu Lys Ala Gln Glu Arg Lys Gln Arg Gln Glu Glu Lys Lys Arg Lys  
145 150 155 160

Lys Gln Glu Gln Gln Glu Glu Lys Lys Arg Lys Arg Gln Glu Gln Arg  
165 170 175

Lys Glu Arg Arg Ala Lys Asn Lys Ile Lys Lys Leu Ala Asp Lys Ile  
180 185 190

Asp Glu Ile Ser Trp Asn Ile Asp Gly Ile Glu Ser Gln Thr Ser Val  
195 200 205

Lys Pro Lys Ala Val Ile Asp Lys Ile Thr Gly Pro Val Tyr Asp Tyr  
210 215 220

Phe Thr Asp Asp Asn Lys Lys Ala Ile Tyr Lys Thr Trp Gly Asp Leu  
225 230 235 240

Glu Asp Glu Glu Gly Glu Gly Leu Gly Lys Leu Leu Lys Glu Leu Ser  
245 250 255

Asp Thr Arg Asp Glu Leu Arg Thr Lys Leu Asn Lys Asp Asn Lys Lys



260

265

270

Tyr Tyr Ala His Glu Asn Glu Pro Pro Leu Lys Glu Asn Val Asp Val  
 275 280 285

Ser Glu Ile Lys Glu Asp Leu Glu Lys Val Lys Ser Gly Leu Glu Lys  
 290 295 300

Val Lys Glu Tyr Leu Lys Asp Asn Ser Lys Phe Glu Glu Ile Lys Gly  
 305 310 315 320

Tyr Ile Ser Tyr Ser Gln  
 325

&lt;210&gt; 692

&lt;211&gt; 381

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 692

taggcacaaat ttaaatttat aaaaacttgt aaggatgctt gtatgaaaat attgataaaa 60  
 aagttaaaag ttgtattatt tctcaattta attttactta tttcttgtgt taatgaaagt 120  
 aatagaaaca aattgggttt taagctaaat attggaagtg agcctgctac ttttagatgct 180  
 caattaataa acgatacggg tggatcaggg attgtaagcc aaatgtttct tggcatttta 240  
 gatggagatc ccaggactgg aggatacaga cggggacttg ctaaaagttg ggatatttct 300  
 gatgacggag tagtttatac gtttcattta agagataatc ttgtttggag tgatggagtt 360  
 tccattactg ccgaagaata a 381

&lt;210&gt; 693

&lt;211&gt; 274

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 693

ttgtgttaat gaaagtaata gaaacaaatt gggtttttaag ctaaattattg gaagtgaacc 60  
 tgctacttta gatgtcaat taataaacga tacggttga tcagggattg taagccaaat 120  
 gtttcttggc attttagatg gagatcccag gactggagga tacagaccgg gacttgctaa 180  
 aagttgggat atttctgatg acggagtgtt ttatacgttt catttaagag ataattctgt 240  
 ttggagtgat ggagtttcca ttactgccga agaa 274

&lt;210&gt; 694

&lt;211&gt; 125

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 694

Ala Lys Phe Lys Phe Ile Lys Thr Cys Lys Asp Ala Cys Met Lys Ile  
 1 5 10 15

Leu Ile Lys Lys Leu Lys Val Val Leu Phe Leu Asn Leu Ile Leu Leu  
 20 25 30

Ile Ser Cys Val Asn Glu Ser Asn Arg Asn Lys Leu Val Phe Lys Leu  
 35 40 45

Asn Ile Gly Ser Glu Pro Ala Thr Leu Asp Ala Gln Leu Ile Asn Asp  
 50 55 60

Thr Val Gly Ser Gly Ile Val Ser Gln Met Phe Leu Gly Ile Leu Asp  
65 70 75 80

Gly Asp Pro Arg Thr Gly Gly Tyr Arg Pro Gly Leu Ala Lys Ser Trp  
85 90 95

Asp Ile Ser Asp Asp Gly Val Val Tyr Thr Phe His Leu Arg Asp Asn  
100 105 110

Leu Val Trp Ser Asp Gly Val Ser Ile Thr Ala Glu Glu  
115 120 125

<210> 695

<211> 91

<212> PRT

<213> Homo sapiens

<400> 695

Cys Val Asn Glu Ser Asn Arg Asn Lys Leu Val Phe Lys Leu Asn Ile  
1 5 10 15

Gly Ser Glu Pro Ala Thr Leu Asp Ala Gln Leu Ile Asn Asp Thr Val  
20 25 30

Gly Ser Gly Ile Val Ser Gln Met Phe Leu Gly Ile Leu Asp Gly Asp  
35 40 45

Pro Arg Thr Gly Gly Tyr Arg Pro Gly Leu Ala Lys Ser Trp Asp Ile  
50 55 60

Ser Asp Asp Gly Val Val Tyr Thr Phe His Leu Arg Asp Asn Leu Val  
65 70 75 80

Trp Ser Asp Gly Val Ser Ile Thr Ala Glu Glu  
85 90

<210> 696

<211> 1158

<212> DNA

<213> Homo sapiens

<400> 696

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atgaaatacc ttaaaaacat ttccttattt ttgttaattt taggttgcaa atccatccca 180  
aatggtaatt tcaatctaca cgatacaaac cataaattag gaaaactaaa atttcaagaa 240  
gactcgataa taagcagaaa ttatgataat aaaatatcca ttgtgggagt atacaaccct 300  
ttaacagaaa aagaaaattt taaagtcaat attttcatca aaaaaaaagg attacaaata 360  
gatcctgaaa atattttgat aaatgaagaa aaaattaatt attcaaaata taaagcagaa 420  
ctcaaagtaa aatctagctt taataaaaagc attatcagta ttctactaac taattcaaga 480  
gatctattaa cctacattta cgataaaaagc acagggaaat acattaacat tgactttaag 540  
gacaattgga acgtatcgca cagtataaaa ttaataaagg agtatatttt agcatatata 600  
acagattttg ataaagaaat taaaatatct aaaaatattt tgcaaaaacg tattgataat 660  
agaaaaattg aaattgaaaa aacagagctt aaaacagaat ataatgaaat agaggattat 720  
tacatctaca gtatgaaaat tccaaaatta ttgaaaaat cagacgctcc ctctgaaact 780  
tacgaaacat ttgttatagc aaattattac ccctgtgaaa atttaaataat actgtttttg 840  
aatttaagct tatactctga taaattacgc tttctaaact ctatttatga tgagaatgat 900  
agaaaattaa aaatggagcc tcctgtgaga gccttaaaga attcaaaaac aataaaaaga 960

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acattaaata tagtattaag tcctcaaaaa ataatagagc tagcaaaaaa cattgaaaaa 1020
gatattactc taaaattaaa atcttacgga gaaaaggag aattcacatt tgaaatatat 1080
aaaccacttc ttttaaaatt cttaaaagaa gtagatcatt gcataaaaaa tttgcaatca 1140
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<210> 697

<211> 991

<212> DNA

<213> Homo sapiens

<400> 697

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gggagtatac aaccctttta cagaaaaaga aaatttttaa gtcaatatth tcatcaaaaa 180
aaaaggatta caaatagatc ctgaaaatat tttgataaat gaagaaaaaa ttaattattc 240
aaaatataaa gcagaactca aagtaaaatc tagctttaat aaaagcatta tcagtatttc 300
actaactaat tcaagagatc tattaaccta catttacgat aaaagcacag ggaaatacat 360
taacattgac ttaaggaca attggaacgt atcgcacagt ataaaattta ataaggagta 420
tatttttagc tatataacag attttgataa agaaattaaa atatctaaaa atattttgca 480
aaaacgtatt gataatagaa aaattgaaat tgaaaaaaca gagcttaaaa cagaatataa 540
tgaaatagag gattattaca tctacagtat gaaaattcca aaattatttg aaaaatcaga 600
cgctccctct gaaacttacg aaacatttgt tatagcaaat tattaccctt gtgaaaattt 660
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aaaaacaata aaagaaacat taaatatagt attaagtcct caaaaaataa tagagctagc 840
aaaaaacatt gaaaaagata ttactctaaa attaaaatct tacggagaaa agggagaatt 900
cacatttgaa atatataaac cacttctttt aaaattctta aaagaagtag atcattgcat 960
aaaaaatttg caatcaagta ggcataaatt t                                991

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<210> 698

<211> 384

<212> PRT

<213> Homo sapiens

<400> 698

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Arg Lys Ala Cys Ile Lys Ser Ile Thr Asn Ser Leu Ile Ile Lys Ile
  1           5           10           15

```

```

Lys Lys Asn Ile Ile Ile Ala Leu Lys Leu Asn Leu Tyr Ser Tyr Ile
      20           25           30

```

```

Glu Ser Leu Lys Glu Gln Lys Met Lys Tyr Leu Lys Asn Ile Ser Leu
      35           40           45

```

```

Phe Leu Leu Ile Leu Gly Cys Lys Ser Ile Pro Asn Gly Asn Phe Asn
      50           55           60

```

```

Leu His Asp Thr Asn His Lys Leu Gly Lys Leu Lys Phe Gln Glu Asp
      65           70           75           80

```

```

Ser Ile Ile Ser Arg Asn Tyr Asp Asn Lys Ile Ser Ile Val Gly Val
      85           90           95

```

```

Tyr Asn Pro Leu Thr Glu Lys Glu Asn Phe Lys Val Asn Ile Phe Ile
      100          105          110

```

```

Lys Lys Lys Gly Leu Gln Ile Asp Pro Glu Asn Ile Leu Ile Asn Glu
      115          120          125

```

Glu Lys Ile Asn Tyr Ser Lys Tyr Lys Ala Glu Leu Lys Val Lys Ser  
 130 135 140  
 Ser Phe Asn Lys Ser Ile Ile Ser Ile Ser Leu Thr Asn Ser Arg Asp  
 145 150 155 160  
 Leu Leu Thr Tyr Ile Tyr Asp Lys Ser Thr Gly Lys Tyr Ile Asn Ile  
 165 170 175  
 Asp Phe Lys Asp Asn Trp Asn Val Ser His Ser Ile Lys Phe Asn Lys  
 180 185 190  
 Glu Tyr Ile Leu Ala Tyr Ile Thr Asp Phe Asp Lys Glu Ile Lys Ile  
 195 200 205  
 Ser Lys Asn Ile Leu Gln Lys Arg Ile Asp Asn Arg Lys Ile Glu Ile  
 210 215 220  
 Glu Lys Thr Glu Leu Lys Thr Glu Tyr Asn Glu Ile Glu Asp Tyr Tyr  
 225 230 235 240  
 Ile Tyr Ser Met Lys Ile Pro Lys Leu Phe Glu Lys Ser Asp Ala Pro  
 245 250 255  
 Ser Glu Thr Tyr Glu Thr Phe Val Ile Ala Asn Tyr Tyr Pro Cys Glu  
 260 265 270  
 Asn Leu Asn Ile Leu Phe Leu Asn Leu Ser Leu Tyr Ser Asp Lys Leu  
 275 280 285  
 Arg Phe Leu Asn Ser Ile Tyr Asp Glu Asn Asp Arg Lys Leu Lys Met  
 290 295 300  
 Glu Pro Pro Val Arg Ala Leu Lys Asn Ser Lys Thr Ile Lys Glu Thr  
 305 310 315 320  
 Leu Asn Ile Val Leu Ser Pro Gln Lys Ile Ile Glu Leu Ala Lys Asn  
 325 330 335  
 Ile Glu Lys Asp Ile Thr Leu Lys Leu Lys Ser Tyr Gly Glu Lys Gly  
 340 345 350  
 Glu Phe Thr Phe Glu Ile Tyr Lys Pro Leu Leu Leu Lys Phe Leu Lys  
 355 360 365  
 Glu Val Asp His Cys Ile Lys Asn Leu Gln Ser Ser Arg His Lys Phe  
 370 375 380

&lt;210&gt; 699

&lt;211&gt; 330

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 699

Cys Lys Ser Ile Pro Asn Gly Asn Phe Asn Leu His Asp Thr Asn His  
 1 5 10 15  
 Lys Leu Gly Lys Leu Lys Phe Gln Glu Asp Ser Ile Ile Ser Arg Asn  
 20 25 30  
 Tyr Asp Asn Lys Ile Ser Ile Val Gly Val Tyr Asn Pro Leu Thr Glu  
 35 40 45  
 Lys Glu Asn Phe Lys Val Asn Ile Phe Ile Lys Lys Lys Gly Leu Gln  
 50 55 60  
 Ile Asp Pro Glu Asn Ile Leu Ile Asn Glu Glu Lys Ile Asn Tyr Ser  
 65 70 75 80  
 Lys Tyr Lys Ala Glu Leu Lys Val Lys Ser Ser Phe Asn Lys Ser Ile  
 85 90 95  
 Ile Ser Ile Ser Leu Thr Asn Ser Arg Asp Leu Leu Thr Tyr Ile Tyr  
 100 105 110  
 Asp Lys Ser Thr Gly Lys Tyr Ile Asn Ile Asp Phe Lys Asp Asn Trp  
 115 120 125  
 Asn Val Ser His Ser Ile Lys Phe Asn Lys Glu Tyr Ile Leu Ala Tyr  
 130 135 140  
 Ile Thr Asp Phe Asp Lys Glu Ile Lys Ile Ser Lys Asn Ile Leu Gln  
 145 150 155 160  
 Lys Arg Ile Asp Asn Arg Lys Ile Glu Ile Glu Lys Thr Glu Leu Lys  
 165 170 175  
 Thr Glu Tyr Asn Glu Ile Glu Asp Tyr Tyr Ile Tyr Ser Met Lys Ile  
 180 185 190  
 Pro Lys Leu Phe Glu Lys Ser Asp Ala Pro Ser Glu Thr Tyr Glu Thr  
 195 200 205  
 Phe Val Ile Ala Asn Tyr Tyr Pro Cys Glu Asn Leu Asn Ile Leu Phe  
 210 215 220  
 Leu Asn Leu Ser Leu Tyr Ser Asp Lys Leu Arg Phe Leu Asn Ser Ile  
 225 230 235 240  
 Tyr Asp Glu Asn Asp Arg Lys Leu Lys Met Glu Pro Pro Val Arg Ala  
 245 250 255  
 Leu Lys Asn Ser Lys Thr Ile Lys Glu Thr Leu Asn Ile Val Leu Ser  
 260 265 270  
 Pro Gln Lys Ile Ile Glu Leu Ala Lys Asn Ile Glu Lys Asp Ile Thr  
 275 280 285  
 Leu Lys Leu Lys Ser Tyr Gly Glu Lys Gly Glu Phe Thr Phe Glu Ile  
 290 295 300  
 Tyr Lys Pro Leu Leu Leu Lys Phe Leu Lys Glu Val Asp His Cys Ile

305

310

315

320

Lys Asn Leu Gln Ser Ser Arg His Lys Phe  
325 330

&lt;210&gt; 700

&lt;211&gt; 555

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 700

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taa atgaaga ag ttt t t t t t aat at ccg t t t t at t t t t t att g t t t t at g g t t g t t t c a a c t a t a 60
t c t t t g g t a a a a t a c c a g a a a a g a t a a a a t a t t t a a c t g t t t t a t c a t c t t t a a t g 120
a a t t a t c c t g a t t t g a a g a t t t c a a a t t t t a a a a t a a a a g a c t a c g a a c a t t t g c a t t a t 180
t c a t c t g a t t t t g a a a g c t t g a g t g a t a c t a a a a a t a g t g c t t a t a t t t a c g t t g a t g a a 240
t c t a g t t t c a a t a a t a t a t a a t t t t t a t t a a a g a t c t t t t t a t a t a a t a a g a a a t t a 300
t a t a g a a t a c t t a t t g c t t a t a g c t t g a c c c a a g g t g c a t c t t t t a a g g c a g a a g t t t t a 360
t c t t a t c t t g a a a a c a a a a a t t a t g a a a a t t t t t t c a t t g a a a a t a a t t t t c c a a c t 420
g c t a a a a a a t t a t g g a t a a t a a g t a t t g g a t t g t a a t t g c a a a a a c c a t t t a g a t t c t 480
c t t g t t a a g a g t a a a a t t a t t a g t c t t g c g a a t g t a a a g a t g g a a t a t a c t c a a a 540
a a g t t t t t a a c t t g a 555

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&lt;210&gt; 701

&lt;211&gt; 451

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 701

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t t g t t c a a c t a t a t c t t t g g t a a a a t a c c a g a a a a g a t a a a t a a a t t t a a c t g t t t t 60
a t c a t c t t t a a t g a a t t a t c c t g a t t t g a a g a t t t c a a a t t t a a a a t a a a g a c t a c g a 120
a c a t t t g c a t t a t t c a t c t g a t t t t g a a a g c t t g a g t g a t a c t a a a a a t a g t g c t t a t a t 180
t t a c g t t g a t g a a t c t a g t t t c a a t a a t a a t a t t a a t t t t a t t a a a g a t c t t t t a t t t a 240
t a a t a g a a a t t a t a t a g a a t a c t t a t t g c t t a t a g c t t g a c c c a a g g t g c a t c t t t t a a 300
g g c a g a a g t t t a t c t t a t c t t g a a a a c a a a a a t t a t g a a a a t t t t t c a t t g a a a a t 360
a a a t t t t c c a a c t g c t a a a a a a t t t a t g g a t a a t a a g t a t t g g a t t g t a a t t g c a a a a a a 420
c c a t t t a g a t t c t c t t g t t a a g a g t a a a a a t 451

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&lt;210&gt; 702

&lt;211&gt; 183

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 702

Met Lys Lys Phe Leu Ile Ser Val Tyr Phe Leu Leu Phe Tyr Gly Cys  
1 5 10 15

Ser Thr Ile Ser Leu Val Lys Ile Pro Glu Lys Asp Lys Ile Asn Leu  
20 25 30

Thr Val Leu Ser Ser Leu Met Asn Tyr Pro Asp Leu Lys Ile Ser Asn  
35 40 45

Phe Lys Ile Lys Asp Tyr Glu His Leu His Tyr Ser Ser Asp Phe Glu  
50 55 60

Ser Leu Ser Asp Thr Lys Asn Ser Ala Tyr Ile Tyr Val Asp Glu Ser  
65 70 75 80

Ser Phe Asn Asn Asn Ile Asn Phe Ile Lys Asp Leu Phe Ile Tyr Asn  
85 90 95

Lys Lys Leu Tyr Arg Ile Leu Ile Ala Tyr Ser Leu Thr Gln Gly Ala  
100 105 110

Ser Phe Lys Ala Glu Val Leu Ser Tyr Leu Glu Lys Gln Lys Ile Met  
115 120 125

Lys Asn Phe Ser Leu Lys Ile Asn Phe Pro Thr Ala Lys Lys Phe Met  
130 135 140

Asp Asn Lys Tyr Trp Ile Val Ile Ala Lys Asn His Leu Asp Ser Leu  
145 150 155 160

Val Lys Ser Lys Asn Tyr Leu Val Leu Ala Asn Val Lys Met Glu Tyr  
165 170 175

Ile Leu Lys Lys Phe Leu Thr  
180

<210> 703

<211> 150

<212> PRT

<213> Homo sapiens

<400> 703

Cys Ser Thr Ile Ser Leu Val Lys Ile Pro Glu Lys Asp Lys Ile Asn  
1 5 10 15

Leu Thr Val Leu Ser Ser Leu Met Asn Tyr Pro Asp Leu Lys Ile Ser  
20 25 30

Asn Phe Lys Ile Lys Asp Tyr Glu His Leu His Tyr Ser Ser Asp Phe  
35 40 45

Glu Ser Leu Ser Asp Thr Lys Asn Ser Ala Tyr Ile Tyr Val Asp Glu  
50 55 60

Ser Ser Phe Asn Asn Asn Ile Asn Phe Ile Lys Asp Leu Phe Ile Tyr  
65 70 75 80

Asn Lys Lys Leu Tyr Arg Ile Leu Ile Ala Tyr Ser Leu Thr Gln Gly  
85 90 95

Ala Ser Phe Lys Ala Glu Val Leu Ser Tyr Leu Glu Lys Gln Lys Ile  
100 105 110

Met Lys Asn Phe Ser Leu Lys Ile Asn Phe Pro Thr Ala Lys Lys Phe  
115 120 125

Met Asp Asn Lys Tyr Trp Ile Val Ile Ala Lys Asn His Leu Asp Ser  
130 135 140

Leu Val Lys Ser Lys Asn  
145 150

<210> 704

&lt;211&gt; 450

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 704

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gatattgaaa atttaatgct cgatgaagca gaacttttta gatactcaac cgcactaaat 240
gttttggttt tgactgtaaa atcttatgtg atcaaatact atcctaataa caaatctcct 300
gtgtttgaaa attttgatcc cgtgtttggc gatgaaaatg gaactaaaga aacaaatata 360
ctaaaaaatc gaattaccta ctacaatcga tacatagaaa aaaccgaacc gattgtattt 420
gggtgttaca aaaaatacag cagaagataa                                450

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&lt;210&gt; 705

&lt;211&gt; 319

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 705

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aaattttgat cccgtgtttg gcgatgaaaa tggaactaaa gaaacaaata tactaaaaaa 240
tcgaattacc tactacaatc gatacataga aaaaaccgaa ccgattgtat ttgggtgtta 300
caaaaaatac agcagaaga                                319

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&lt;210&gt; 706

&lt;211&gt; 148

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 706

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Arg Arg Ser His Lys Gln Asn Val Lys Arg Phe Thr Lys Ser Ser Ser
 1              5              10              15

Arg Gly Gln Ile Met Lys Asn Leu Lys Thr Lys Ile Asn Phe Leu Gly
      20              25              30

Ile Phe Trp Leu Leu Leu Leu Phe Leu Ser Cys Glu Ser Ile Pro Ser
      35              40              45

Leu Pro Gln Lys Pro Thr Leu Thr Asn Lys Glu Asp Ile Glu Asn Leu
      50              55              60

Met Leu Asp Glu Ala Glu Leu Phe Arg Tyr Ser Thr Ala Leu Asn Val
      65              70              75              80

Trp Leu Leu Thr Val Lys Ser Tyr Val Ile Lys Tyr Tyr Pro Asn Asp
      85              90              95

Lys Phe Pro Val Phe Glu Asn Phe Asp Pro Val Phe Gly Asp Glu Asn
      100             105             110

Gly Thr Lys Glu Thr Asn Ile Leu Lys Asn Arg Ile Thr Tyr Tyr Asn
      115             120             125

Arg Tyr Ile Glu Lys Thr Glu Pro Ile Val Phe Gly Cys Tyr Lys Lys

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130 135 140

Tyr Ser Arg Arg  
145

<210> 707  
<211> 106  
<212> PRT  
<213> Homo sapiens

<400> 707  
Cys Glu Ser Ile Pro Ser Leu Pro Gln Lys Pro Thr Leu Thr Asn Lys  
1 5 10 15  
Glu Asp Ile Glu Asn Leu Met Leu Asp Glu Ala Glu Leu Phe Arg Tyr  
20 25 30  
Ser Thr Ala Leu Asn Val Trp Leu Leu Thr Val Lys Ser Tyr Val Ile  
35 40 45  
Lys Tyr Tyr Pro Asn Asp Lys Phe Pro Val Phe Glu Asn Phe Asp Pro  
50 55 60  
Val Phe Gly Asp Glu Asn Gly Thr Lys Glu Thr Asn Ile Leu Lys Asn  
65 70 75 80  
Arg Ile Thr Tyr Tyr Asn Arg Tyr Ile Glu Lys Thr Glu Pro Ile Val  
85 90 95  
Phe Gly Cys Tyr Lys Lys Tyr Ser Arg Arg  
100 105

<210> 708  
<211> 453  
<212> DNA  
<213> Homo sapiens

<400> 708  
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agacaaaagc gtgatttaac ccaaaaagaa gcaacacaag aaaaacctaa atctaaatct 180  
aaagaagacc tgcttagaga aaagctatct gatgatcaaa aaacacaact tgactgggta 240  
aaaaccgctt taactgggtg tggaaaattt gataaattct tagaaaatga tgaaggcaaa 300  
attaaatcag cacttgaaca tataaagact gaacttgata aatgtaatgg aaatgatgaa 360  
ggaaaaaaca ccttcaaaac taccgttcaa gggtttttta gcggcggcaa tatagataat 420  
tttgcagatc aagcaactgc tacctgcaat taa 453

<210> 709  
<211> 370  
<212> DNA  
<213> Homo sapiens

<400> 709  
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aaagctatct gatgatcaaa aaacacaact tgactgggta aaaaccgctt taactgggtg 180  
tggaaaattt gataaattct tagaaaatga tgaaggcaaa attaaatcag cacttgaaca 240  
tataaagact gaacttgata aatgtaatgg aaatgatgaa ggaaaaaaca ccttcaaaac 300

taccgttcaa gggtttttta gcggcggcaa tatagataat tttgcagatc aagcaactgc 360  
 tacctgcaat 370

<210> 710

<211> 149

<212> PRT

<213> Homo sapiens

<400> 710

Ile Leu Ile Ile Lys Lys Gly Val Thr Met Lys Ile Ile Asn Ile Leu  
 1 5 10 15

Phe Cys Leu Phe Leu Leu Met Leu Asn Gly Cys Asn Ser Asn Asp Thr  
 20 25 30

Asn Thr Lys Gln Thr Lys Ser Arg Gln Lys Arg Asp Leu Thr Gln Lys  
 35 40 45

Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys Ser Lys Glu Asp Leu Leu  
 50 55 60

Arg Glu Lys Leu Ser Asp Asp Gln Lys Thr Gln Leu Asp Trp Leu Lys  
 65 70 75 80

Thr Ala Leu Thr Gly Val Gly Lys Phe Asp Lys Phe Leu Glu Asn Asp  
 85 90 95

Glu Gly Lys Ile Lys Ser Ala Leu Glu His Ile Lys Thr Glu Leu Asp  
 100 105 110

Lys Cys Asn Gly Asn Asp Glu Gly Lys Asn Thr Phe Lys Thr Thr Val  
 115 120 125

Gln Gly Phe Phe Ser Gly Gly Asn Ile Asp Asn Phe Ala Asp Gln Ala  
 130 135 140

Thr Ala Thr Cys Asn  
 145

<210> 711

<211> 123

<212> PRT

<213> Homo sapiens

<400> 711

Cys Asn Ser Asn Asp Thr Asn Thr Lys Gln Thr Lys Ser Arg Gln Lys  
 1 5 10 15

Arg Asp Leu Thr Gln Lys Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys  
 20 25 30

Ser Lys Glu Asp Leu Leu Arg Glu Lys Leu Ser Asp Asp Gln Lys Thr  
 35 40 45

Gln Leu Asp Trp Leu Lys Thr Ala Leu Thr Gly Val Gly Lys Phe Asp  
 50 55 60

Lys Phe Leu Glu Asn Asp Glu Gly Lys Ile Lys Ser Ala Leu Glu His

<213> Homo sapiens

taagtaagga	gaatatattat	gaaatataat	acgattataa	gcataattgt	ttgtttgttt	60
ttaactgctt	gcaatccaga	ttttaacaca	aataagaaaa	gaactctaag	taaggggata	120
atttcaaatc	aagatgcaga	ttctgataaa	ataataaaaa	ataaattact	tgatgattta	180
ataaaatttaa	tagaaaaagc	gaatgcagat	agagaaaaat	atgtaaaaaa	aatggaagaa	240
gaaccttcgg	atcaatatgg	aatggtggct	gttttgagg	gtatgtattg	ggcagaatca	300
ccacgggaat	taatatctga	tacaggtagt	gagagactta	ttaggtagat	agggcgtgtt	360
tatagtattt	tattaaatgc	tattgaaact	aatgaattaa	agaaattttc	agaaattaga	420
atactgtcaa	taaaagtact	agaaatattt	agcctattta	atctatttgg	aagtactctt	480
gatgatgtgg	ttgttcactt	atattccaaa	aaagatactc	taggtaaact	agatatttca	540
aattttaaaaa	gacttaaaaa	tttgtttgaa	aaattattat	ctataaaaaa	aatcgtttca	600
aagatgtcaa	aacgtctttt	attggattat	caaaaataatg	aaaaattttat	aaaaacagat	660
aacgccaagc	ttggatctta	tgtgtgtgca	ctttccaatc	aaattcaaga	aaaatataat	720
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<213> Homo sapiens

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tcaagatgca	gattctgata	aaataataaa	aaataaatta	cttgatgatt	taataaattt	120
aatagaaaaa	gcgaatgcag	atagagaaaa	atatgtaaaa	aaaatggaag	aagaaccttc	180
ggatcaatat	ggaatgttgg	ctgttttttg	aggatgtgat	tgggcagaat	caccacggga	240
attaatatct	gatacaggta	gtgagagatc	tattagggat	agaaggcgtg	tttatagtat	300
tttattaaat	gctattgaaa	ctaatgaatt	aaagaaaattt	tcagaaaatta	gaatactgtc	360
aataaaaagta	ctagaaatat	ttagcctatt	taatctattt	ggaagtactc	ttgatgatgt	420
ggttgttcac	ttatattcca	aaaaagatac	tctaggtaaa	ctagatattt	caaattttaa	480
aagacttaaa	aatttgtttg	aaaaattatt	atctataaaa	acaatcgttt	caaagatgtc	540
aaaacgtctt	ttattggatt	atcaaaataa	tgaaaatttt	ataaaaacag	ataacgcaa	600
gcttggatct	tatgtggttg	cactttccaa	tcaaatccaa	gaaaaatata	atgaagcaga	660
aaqctgaaaa						670

<213> Homo sapiens

Val Arg Arg Ile Phe Met Lys Tyr Asn Thr Ile Ile Ser Ile Phe Val  
1 5 10 15

Cys Leu Phe Leu Thr Ala Cys Asn Pro Asp Phe Asn Thr Asn Lys Lys  
                   20                  25                  30  
 Arg Thr Leu Ser Lys Gly Ile Ile Ser Asn Gln Asp Ala Asp Ser Asp  
                   35                  40                  45  
 Lys Ile Ile Lys Asn Lys Leu Leu Asp Asp Leu Ile Asn Leu Ile Glu  
                   50                  55                  60  
 Lys Ala Asn Ala Asp Arg Glu Lys Tyr Val Lys Lys Met Glu Glu Glu  
                   65                  70                  75                  80  
 Pro Ser Asp Gln Tyr Gly Met Leu Ala Val Phe Gly Gly Met Tyr Trp  
                   85                  90                  95  
 Ala Glu Ser Pro Arg Glu Leu Ile Ser Asp Thr Gly Ser Glu Arg Ser  
                   100                  105                  110  
 Ile Arg Tyr Arg Arg Arg Val Tyr Ser Ile Leu Leu Asn Ala Ile Glu  
                   115                  120                  125  
 Thr Asn Glu Leu Lys Lys Phe Ser Glu Ile Arg Ile Leu Ser Ile Lys  
                   130                  135                  140  
 Val Leu Glu Ile Phe Ser Leu Phe Asn Leu Phe Gly Ser Thr Leu Asp  
                   145                  150                  155                  160  
 Asp Val Val Val His Leu Tyr Ser Lys Lys Asp Thr Leu Gly Lys Leu  
                   165                  170                  175  
 Asp Ile Ser Asn Leu Lys Arg Leu Lys Asn Leu Phe Glu Lys Leu Leu  
                   180                  185                  190  
 Ser Ile Lys Thr Ile Val Ser Lys Met Ser Lys Arg Leu Leu Leu Asp  
                   195                  200                  205  
 Tyr Gln Asn Asn Glu Asn Phe Ile Lys Thr Asp Asn Ala Lys Leu Gly  
                   210                  215                  220  
 Ser Tyr Val Val Ala Leu Ser Asn Gln Ile Gln Glu Lys Tyr Asn Glu  
                   225                  230                  235                  240  
 Ala Glu Arg Leu Lys Ser Glu Ile Ile Leu Ile Tyr Thr Leu  
                   245                  250  
  
 <210> 715  
 <211> 223  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 715  
 Cys Asn Pro Asp Phe Asn Thr Asn Lys Lys Arg Thr Leu Ser Lys Gly  
                   1                  5                  10                  15  
 Ile Ile Ser Asn Gln Asp Ala Asp Ser Asp Lys Ile Ile Lys Asn Lys  
                   20                  25                  30

Leu Leu Asp Asp Leu Ile Asn Leu Ile Glu Lys Ala Asn Ala Asp Arg  
           35                          40                          45  
 Glu Lys Tyr Val Lys Lys Met Glu Glu Glu Pro Ser Asp Gln Tyr Gly  
           50                          55                          60  
 Met Leu Ala Val Phe Gly Gly Met Tyr Trp Ala Glu Ser Pro Arg Glu  
       65                          70                          75                          80  
 Leu Ile Ser Asp Thr Gly Ser Glu Arg Ser Ile Arg Tyr Arg Arg Arg  
                           85                          90                          95  
 Val Tyr Ser Ile Leu Leu Asn Ala Ile Glu Thr Asn Glu Leu Lys Lys  
                           100                          105                          110  
 Phe Ser Glu Ile Arg Ile Leu Ser Ile Lys Val Leu Glu Ile Phe Ser  
           115                          120                          125  
 Leu Phe Asn Leu Phe Gly Ser Thr Leu Asp Asp Val Val Val His Leu  
       130                          135                          140  
 Tyr Ser Lys Lys Asp Thr Leu Gly Lys Leu Asp Ile Ser Asn Leu Lys  
       145                          150                          155                          160  
 Arg Leu Lys Asn Leu Phe Glu Lys Leu Leu Ser Ile Lys Thr Ile Val  
                           165                          170                          175  
 Ser Lys Met Ser Lys Arg Leu Leu Leu Asp Tyr Gln Asn Asn Glu Asn  
           180                          185                          190  
 Phe Ile Lys Thr Asp Asn Ala Lys Leu Gly Ser Tyr Val Val Ala Leu  
           195                          200                          205  
 Ser Asn Gln Ile Gln Glu Lys Tyr Asn Glu Ala Glu Arg Leu Lys  
       210                          215                          220

&lt;210&gt; 716

&lt;211&gt; 951

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 716

taatatatat tcttgattaa gggaaaggag agtatttttta tgaaaaaaaa aatgttttta 60  
 tatacattgt taacgatagg attgatgtct tgtaatctaa attctaaatt atctggtaat 120  
 aaagaggaac aaaaaaataa caatgatata aaagaagctt taaatggcgt tcaagaaaat 180  
 gctattaata atttatatgg aaataaaaaa gaaaaaaaaag attttattaa aaattcggaa 240  
 aaattgaaag acaagggttt agacgtgacc accctccctc tagaacctgt agtggcgccc 300  
 tccgtagaat ctgcggtgtc tttaggagaa tctaataata ggattggtat accaaccatt 360  
 tcaattgagc ataatcaaaa aaaagagata aaagaagagg attttttccc ttctactgag 420  
 gaagaaaagc aagcggataa agcaattaaa gatatagaga atcttattgg agaacttgga 480  
 tttcccgagt taattgagaa tgtgtgtctca cttaaacatg aatatacttt aataagaagt 540  
 gatttttatg atgtgataac taagattcag aataaaaaaa tatcactaat gaaaaattct 600  
 cataataata gaaataaaat aagggaacta gtacaattgc aaaataattt aaagatagga 660  
 gacgaacttg ataaaattat gggttgcatt gatactgcag aacaagagat aagatctgcc 720  
 gctttctttt ttgatgaagc taaggaaagc ttaaaagaag gtattattaa aagattggaa 780  
 aaaagtaaaa atagggcagc atcacaatta tctaaaaagg ctttaaatag agcagaggat 840  
 gctttaaggt gcttagaaaa ttattcttct aaaaaagggt aggcaatagg aagaagaagc 900  
 tttataaaag aagttgttga acaggcaaaa aatgctttta gtaagtctta a 951

<210> 717  
 <211> 859  
 <212> DNA  
 <213> Homo sapiens

<400> 717  
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 aaaagaagct ttaaattggcg ttcaagaaaa tgctattaat aatttatatg gaaataaaaa 120  
 agaaaaaaaa gattttatta aaaattcggg aaaattgaaa gacaaggggt tagacgtgac 180  
 caccctcccc ttagaacctg tagtggcgcc ctccgtagaa tctgcggtgt ctttaggaga 240  
 atctaataat aggattggta taccaaccat ttcaattgag cataatcaaa aaaaagagat 300  
 aaaagaagag gattttttcc cttctactga ggaagaaaag caagcggata aagcaattaa 360  
 agatatagag aatcttattg gagaatctgg atttcccgag ttaattgaga atgtgtgctc 420  
 acttaaacat gaataactt taataagaag tgatttttat gatgtgataa ctaagattca 480  
 gaataaaaaa atatcactaa tgaaaaattc tcataataat agaaataaaa taagggaact 540  
 agtaccaattg caaaataatt taaagatagg agacgaactt gataaaatta tgggttgcat 600  
 tgataactgca gaacaagaga taagatctgc cgctttcttt tttgatgaag ctaaggaaag 660  
 cttaaaagaa ggtattatta aaagattgga aaaaagtaaa aatagggcag catcacaatt 720  
 atctaaaaag gctttaaata gagcagagga tgctttaagg tgcttagaaa attattcttc 780  
 taaaaaaggt gaggcaatag gaagaagaag ctttataaaa gaagttgttg aacaggcaaa 840  
 aaatgcttta agtaagtct 859

<210> 718  
 <211> 315  
 <212> PRT  
 <213> Homo sapiens

<400> 718  
 Tyr Ile Phe Leu Ile Lys Gly Lys Glu Ser Ile Phe Met Lys Lys Lys  
 1 5 10 15  
 Met Phe Leu Tyr Thr Leu Leu Thr Ile Gly Leu Met Ser Cys Asn Leu  
 20 25 30  
 Asn Ser Lys Leu Ser Gly Asn Lys Glu Glu Gln Lys Asn Asn Asn Asp  
 35 40 45  
 Ile Lys Glu Ala Leu Asn Gly Val Gln Glu Asn Ala Ile Asn Asn Leu  
 50 55 60  
 Tyr Gly Asn Lys Lys Glu Lys Lys Asp Phe Ile Lys Asn Ser Glu Lys  
 65 70 75 80  
 Leu Lys Asp Lys Gly Leu Asp Val Thr Thr Leu Pro Leu Glu Pro Val  
 85 90 95  
 Val Ala Pro Ser Val Glu Ser Ala Val Ser Leu Gly Glu Ser Asn Asn  
 100 105 110  
 Arg Ile Gly Ile Pro Thr Ile Ser Ile Glu His Asn Gln Lys Lys Glu  
 115 120 125  
 Ile Lys Glu Glu Asp Phe Phe Pro Ser Thr Glu Glu Glu Lys Gln Ala  
 130 135 140  
 Asp Lys Ala Ile Lys Asp Ile Glu Asn Leu Ile Gly Glu Ser Gly Phe  
 145 150 155 160

Pro Glu Leu Ile Glu Asn Val Cys Ser Leu Lys His Glu Tyr Thr Leu  
165 170 175

Ile Arg Ser Asp Phe Tyr Asp Val Ile Thr Lys Ile Gln Asn Lys Lys  
180 185 190

Ile Ser Leu Met Lys Asn Ser His Asn Asn Arg Asn Lys Ile Arg Glu  
195 200 205

Leu Val Gln Leu Gln Asn Asn Leu Lys Ile Gly Asp Glu Leu Asp Lys  
210 215 220

Ile Met Gly Cys Ile Asp Thr Ala Glu Gln Glu Ile Arg Ser Ala Ala  
225 230 235 240

Phe Phe Phe Asp Glu Ala Lys Glu Ser Leu Lys Glu Gly Ile Ile Lys  
245 250 255

Arg Leu Glu Lys Ser Lys Asn Arg Ala Ala Ser Gln Leu Ser Lys Lys  
260 265 270

Ala Leu Asn Arg Ala Glu Asp Ala Leu Arg Cys Leu Glu Asn Tyr Ser  
275 280 285

Ser Lys Lys Gly Glu Ala Ile Gly Arg Arg Ser Phe Ile Lys Glu Val  
290 295 300

Val Glu Gln Ala Lys Asn Ala Leu Ser Lys Ser  
305 310 315

<210> 719

<211> 286

<212> PRT

<213> Homo sapiens

<400> 719

Cys Asn Leu Asn Ser Lys Leu Ser Gly Asn Lys Glu Glu Gln Lys Asn  
1 5 10 15

Asn Asn Asp Ile Lys Glu Ala Leu Asn Gly Val Gln Glu Asn Ala Ile  
20 25 30

Asn Asn Leu Tyr Gly Asn Lys Lys Glu Lys Lys Asp Phe Ile Lys Asn  
35 40 45

Ser Glu Lys Leu Lys Asp Lys Gly Leu Asp Val Thr Thr Leu Pro Leu  
50 55 60

Glu Pro Val Val Ala Pro Ser Val Glu Ser Ala Val Ser Leu Gly Glu  
65 70 75 80

Ser Asn Asn Arg Ile Gly Ile Pro Thr Ile Ser Ile Glu His Asn Gln  
85 90 95

Lys Lys Glu Ile Lys Glu Glu Asp Phe Phe Pro Ser Thr Glu Glu Glu  
100 105 110

Lys Gln Ala Asp Lys Ala Ile Lys Asp Ile Glu Asn Leu Ile Gly Glu  
115 120 125

Ser Gly Phe Pro Glu Leu Ile Glu Asn Val Cys Ser Leu Lys His Glu  
130 135 140

Tyr Thr Leu Ile Arg Ser Asp Phe Tyr Asp Val Ile Thr Lys Ile Gln  
145 150 155 160

Asn Lys Lys Ile Ser Leu Met Lys Asn Ser His Asn Asn Arg Asn Lys  
165 170 175

Ile Arg Glu Leu Val Gln Leu Gln Asn Asn Leu Lys Ile Gly Asp Glu  
180 185 190

Leu Asp Lys Ile Met Gly Cys Ile Asp Thr Ala Glu Gln Glu Ile Arg  
195 200 205

Ser Ala Ala Phe Phe Phe Asp Glu Ala Lys Glu Ser Leu Lys Glu Gly  
210 215 220

Ile Ile Lys Arg Leu Glu Lys Ser Lys Asn Arg Ala Ala Ser Gln Leu  
225 230 235 240

Ser Lys Lys Ala Leu Asn Arg Ala Glu Asp Ala Leu Arg Cys Leu Glu  
245 250 255

Asn Tyr Ser Ser Lys Lys Gly Glu Ala Ile Gly Arg Arg Ser Phe Ile  
260 265 270

Lys Glu Val Val Glu Gln Ala Lys Asn Ala Leu Ser Lys Ser  
275 280 285

<210> 720

<211> 918

<212> DNA

<213> Homo sapiens

<400> 720

```

tgattaatttt tttttaagga ttacgtttttg aaaagaaaca aaatttggaa aacgttaaaa 60
ctgttttcaaa taactttact gttctcatgc tctttttatt ctaaatcaaa caacacagaa 120
gcgataagtg aattacaatc aagccctatt aaacttggaa aaattaaagt ttacaaaaaa 180
acagaaaaaga ttgtaagcac ccaaaatcct caaaacttac aacaaagcca gttcttttaa 240
aatgaaaaag aaaaaataat taaaaaaatt gcacaagaat ttgatgagaa tgaaaaattg 300
attaataaaa taggtccaaa tatcgaaatg tttgctcaaa caataaacac ggatattcaa 360
aaaatcgaac ctaatgatca atttggaata aataaaactt tattcacaga aaaaaagac 420
aataatattg actttatgtt aaaagacaat cgacttagaa gattatttta ctcatcttta 480
aattatgatg aaaataaaat caaaaaatta gccacaatac tcgcgcaaac atcaagctca 540
aacgactacc attacacact tattggttta attttttgga caggatttaa aatccaagaa 600
gcatttgaaa gcgctgttaa tattttaact aaagacgagc aaaagcgcct aatttttaat 660
tttagaacaa aaacagtaaa agagattcag gaaaattttg aaaaactaat gcaagagaga 720
aattcatgga taaaaatcgt cgataacatt attggcgaat atgacaaaaa tacgggagga 780
tgcaaagctg atggaaaaat tctcggagaa gtaataaggg ttggatacga gcatgaactc 840
gactcaaata aaagtatgca aattttaaac aatattgaaa caccgctaaa aacctgttgt 900
gaccacatac actactaa                                     918

```

<210> 721

<211> 828



&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 721

```

tgctcttttt attctaaatc aaacaacaca gaagcgataa gtgaattaca atcaagccct 60
attaaacttg gaaaaattaa agtttttaca aaaacagaaa agattgtaag caccctaaat 120
cttcaaaact tacaacaaag ccagttcttt aaaaatgaaa aagaaaaaat aattaaaaaa 180
attgcacaag aatttgatga gaatgaaaaa ttgattaata aaataggtcc aaatatcgaa 240
atgtttgctc aaacaataaa cacggatatt caaaaaatcg aacctaata tcaatttgga 300
ataaataaaa ctttattcac agaaaaaaaa gacaataata ttgactttat gttaaaagac 360
aatcgactta gaagattatt ttactcatct ttaaattatg atgaaaataa aatcaaaaaa 420
ttagccacaa tactcgcgca aacatcaagc tcaaacgact accattacac acttattggt 480
ttaatttttt ggacaggatt taaaatccaa gaagcatttg aaagcgctgt taatatttta 540
actaaagacg agcaaaagcg cctaattttt aatttttagaa caaaaacagt aaaagagatt 600
caggaaaatt ttgaaaaact aatgcaagag agaaattcat ggataaaaat cgtcgataac 660
attattggcg aatatgacaa aaatacggga ggatgcaaag ctgatggaaa aattctcgga 720
gaagtaataa gggttggata cgagcatgaa ctcgactcaa ataaaagtat gcaaatttta 780
aacaatattg aaacaccgct aaaaacctgt tgtgaccaca tacactac 828

```

&lt;210&gt; 722

&lt;211&gt; 304

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 722

```

Leu Ile Phe Phe Lys Asp Tyr Val Leu Lys Arg Asn Lys Ile Trp Lys
 1             5             10             15

Thr Leu Lys Leu Phe Gln Ile Thr Leu Leu Phe Ser Cys Ser Phe Tyr
      20             25             30

Ser Lys Ser Asn Asn Thr Glu Ala Ile Ser Glu Leu Gln Ser Ser Pro
      35             40             45

Ile Lys Leu Gly Lys Ile Lys Val Leu Gln Lys Thr Glu Lys Ile Val
      50             55             60

Ser Thr Gln Asn Leu Gln Asn Leu Gln Gln Ser Gln Phe Phe Lys Asn
      65             70             75             80

Glu Lys Glu Lys Ile Ile Lys Lys Ile Ala Gln Glu Phe Asp Glu Asn
      85             90             95

Glu Lys Leu Ile Asn Lys Ile Gly Pro Asn Ile Glu Met Phe Ala Gln
      100            105            110

Thr Ile Asn Thr Asp Ile Gln Lys Ile Glu Pro Asn Asp Gln Phe Gly
      115            120            125

Ile Asn Lys Thr Leu Phe Thr Glu Lys Lys Asp Asn Asn Ile Asp Phe
      130            135            140

Met Leu Lys Asp Asn Arg Leu Arg Arg Leu Phe Tyr Ser Ser Leu Asn
      145            150            155            160

Tyr Asp Glu Asn Lys Ile Lys Lys Leu Ala Thr Ile Leu Ala Gln Thr
      165            170            175

```

Ser	Ser	Ser	Asn	Asp	Tyr	His	Tyr	Thr	Leu	Ile	Gly	Leu	Ile	Phe	Trp
			180						185				190		
Thr	Gly	Phe	Lys	Ile	Gln	Glu	Ala	Phe	Glu	Ser	Ala	Val	Asn	Ile	Leu
			195				200					205			
Thr	Lys	Asp	Glu	Gln	Lys	Arg	Leu	Ile	Phe	Asn	Phe	Arg	Thr	Lys	Thr
			210			215					220				
Val	Lys	Glu	Ile	Gln	Glu	Asn	Phe	Glu	Lys	Leu	Met	Gln	Glu	Arg	Asn
225					230					235					240
Ser	Trp	Ile	Lys	Ile	Val	Asp	Asn	Ile	Ile	Gly	Glu	Tyr	Asp	Lys	Asn
				245					250					255	
Thr	Gly	Gly	Cys	Lys	Ala	Asp	Gly	Lys	Ile	Leu	Gly	Glu	Val	Ile	Arg
			260					265					270		
Val	Gly	Tyr	Glu	His	Glu	Leu	Asp	Ser	Asn	Lys	Ser	Met	Gln	Ile	Leu
			275				280					285			
Asn	Asn	Ile	Glu	Thr	Pro	Leu	Lys	Thr	Cys	Cys	Asp	His	Ile	His	Tyr
			290			295					300				

```
<210> 723
<211> 276
<212> PRT
<213> Homo sapiens
```

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<400> 723
Cys Ser Phe Tyr Ser Lys Ser Asn Asn Thr Glu Ala Ile Ser Glu Leu
  1          5          10          15
Gln Ser Ser Pro Ile Lys Leu Gly Lys Ile Lys Val Leu Gln Lys Thr
          20          25          30
Glu Lys Ile Val Ser Thr Gln Asn Leu Gln Asn Leu Gln Gln Ser Gln
          35          40          45
Phe Phe Lys Asn Glu Lys Glu Lys Ile Ile Lys Lys Ile Ala Gln Glu
  50          55          60
Phe Asp Glu Asn Glu Lys Leu Ile Asn Lys Ile Gly Pro Asn Ile Glu
  65          70          75          80
Met Phe Ala Gln Thr Ile Asn Thr Asp Ile Gln Lys Ile Glu Pro Asn
          85          90          95
Asp Gln Phe Gly Ile Asn Lys Thr Leu Phe Thr Glu Lys Lys Asp Asn
          100          105          110
Asn Ile Asp Phe Met Leu Lys Asp Asn Arg Leu Arg Arg Leu Phe Tyr
          115          120          125
Ser Ser Leu Asn Tyr Asp Glu Asn Lys Ile Lys Lys Leu Ala Thr Ile

```

130 135 140

Leu Ala Gln Thr Ser Ser Ser Asn Asp Tyr His Tyr Thr Leu Ile Gly  
145 150 155 160

Leu Ile Phe Trp Thr Gly Phe Lys Ile Gln Glu Ala Phe Glu Ser Ala  
165 170 175

Val Asn Ile Leu Thr Lys Asp Glu Gln Lys Arg Leu Ile Phe Asn Phe  
180 185 190

Arg Thr Lys Thr Val Lys Glu Ile Gln Glu Asn Phe Glu Lys Leu Met  
195 200 205

Gln Glu Arg Asn Ser Trp Ile Lys Ile Val Asp Asn Ile Ile Gly Glu  
210 215 220

Tyr Asp Lys Asn Thr Gly Gly Cys Lys Ala Asp Gly Lys Ile Leu Gly  
225 230 235 240

Glu Val Ile Arg Val Gly Tyr Glu His Glu Leu Asp Ser Asn Lys Ser  
245 250 255

Met Gln Ile Leu Asn Asn Ile Glu Thr Pro Leu Lys Thr Cys Cys Asp  
260 265 270

His Ile His Tyr  
275

&lt;210&gt; 724

&lt;211&gt; 828

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 724

```

taattaatac tgggttttaac ttataaggag agtatttttga aaaaagccaa actaaatata 60
atcaagatta atattattac aatgatatta actttaattt gcatctcatg tgcacctttt 120
aacaaaatca atcccaaggc aaatgaaaac accaagctta aaaaaaacac cagactgaaa 180
aaacccgcc aatccagggga aaacatccaa aatttttaaag ataaatctgg agaccttggc 240
gcttctgatg aaaaatttat gggaactacc gcttcagagc taaaagcaat tggtaaggag 300
ctagaagatc gaaaaaatca atacgatata caaatagcca aaattactaa tgaagaatct 360
aacctattag atacttatat tcgggcttat gaactagcta acgaaaatga aaaaatgctt 420
ttaaaaagat ttcttctttc atcttttagat tataaaaaag aaaacataga gacattaaaa 480
gaaattcttg aaaaactcat aaataattac gaaaacgacc caaaattgc tgcaaatttc 540
ctttatcgca tagcgctgga tattcaatta aaactggaaa agcacttaaa atcaataaat 600
gaaaaactgg acactctaag caaagaaaat tcaaaagaag atttagaggc gttgctagaa 660
caagtaaaat ctgccttaca gctacaagaa aagtttataa aaaccctaaa caaaactctt 720
gaagattacc gtaaaaatac taacaacatt caagaaaata agtactagc agaacacttt 780
aataaatatt acaaagactc tgattcttta caatctgcct tttattaa 828

```

&lt;210&gt; 725

&lt;211&gt; 717

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 725

```

tgtgcacctt ttaacaaaat caatcccaag gcaaatgaaa acaccaagct taaaaaaaac 60
accagactga aaaaaccgc caatccaggg gaaaacatcc aaaattttta agataaatct 120

```

```

ggagaccttg gcgcttctga tgaaaaattt atgggaacta ccgcttcaga gctaaaagca 180
attggttaagg agctagaaga tcgaaaaaat caatacgata taaaaatagc caaaattact 240
aatgaagaat ctaacctatt agatacttat attcgggctt atgaactagc taacgaaaat 300
gaaaaaatgc ttttaaaaag atttcttctt tcatcttttag attataaaaa agaaaacata 360
gagacattaa aagaaattct tgaaaaactc ataaataatt acgaaaacga ccccaaaatt 420
gctgcaaatt tcctttatcg catagcgctg gatattcaat taaaactgga aaagcactta 480
aaatcaataa atgaaaaact ggacactcta agcaaagaaa attcaaaaga agatttagag 540
gcgttgctag aacaagtaaa atctgcctta cagctacaag aaaagttaa aaaaacccta 600
aacaaaactc ttgaagatta ccgtaaaaat actaacaaca ttcaagaaaa taaagtacta 660
gcagaacact ttaataaata ttacaaagac tctgattctt tacaatctgc cttttat 717

```

<210> 726

<211> 274

<212> PRT

<213> Homo sapiens

<400> 726

```

Leu Ile Leu Val Leu Ile Tyr Lys Glu Ser Ile Leu Lys Lys Ala Lys
  1             5             10             15

```

```

Leu Asn Ile Ile Lys Ile Asn Ile Ile Thr Met Ile Leu Thr Leu Ile
      20             25             30

```

```

Cys Ile Ser Cys Ala Pro Phe Asn Lys Ile Asn Pro Lys Ala Asn Glu
      35             40             45

```

```

Asn Thr Lys Leu Lys Lys Asn Thr Arg Leu Lys Lys Pro Ala Asn Pro
      50             55             60

```

```

Gly Glu Asn Ile Gln Asn Phe Lys Asp Lys Ser Gly Asp Leu Gly Ala
      65             70             75             80

```

```

Ser Asp Glu Lys Phe Met Gly Thr Thr Ala Ser Glu Leu Lys Ala Ile
      85             90             95

```

```

Gly Lys Glu Leu Glu Asp Arg Lys Asn Gln Tyr Asp Ile Gln Ile Ala
      100            105            110

```

```

Lys Ile Thr Asn Glu Glu Ser Asn Leu Leu Asp Thr Tyr Ile Arg Ala
      115            120            125

```

```

Tyr Glu Leu Ala Asn Glu Asn Glu Lys Met Leu Leu Lys Arg Phe Leu
      130            135            140

```

```

Leu Ser Ser Leu Asp Tyr Lys Lys Glu Asn Ile Glu Thr Leu Lys Glu
      145            150            155            160

```

```

Ile Leu Glu Lys Leu Ile Asn Asn Tyr Glu Asn Asp Pro Lys Ile Ala
      165            170            175

```

```

Ala Asn Phe Leu Tyr Arg Ile Ala Leu Asp Ile Gln Leu Lys Leu Glu
      180            185            190

```

```

Lys His Leu Lys Ser Ile Asn Glu Lys Leu Asp Thr Leu Ser Lys Glu
      195            200            205

```

```

Asn Ser Lys Glu Asp Leu Glu Ala Leu Leu Glu Gln Val Lys Ser Ala
      210            215            220

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Leu Gln Leu Gln Glu Lys Phe Lys Lys Thr Leu Asn Lys Thr Leu Glu  
225 230 235 240

Asp Tyr Arg Lys Asn Thr Asn Asn Ile Gln Glu Asn Lys Val Leu Ala  
245 250 255

Glu His Phe Asn Lys Tyr Tyr Lys Asp Ser Asp Ser Leu Gln Ser Ala  
260 265 270

Phe Tyr

<210> 727

<211> 239

<212> PRT

<213> Homo sapiens

<400> 727

Cys Ala Pro Phe Asn Lys Ile Asn Pro Lys Ala Asn Glu Asn Thr Lys  
1 5 10 15

Leu Lys Lys Asn Thr Arg Leu Lys Lys Pro Ala Asn Pro Gly Glu Asn  
20 25 30

Ile Gln Asn Phe Lys Asp Lys Ser Gly Asp Leu Gly Ala Ser Asp Glu  
35 40 45

Lys Phe Met Gly Thr Thr Ala Ser Glu Leu Lys Ala Ile Gly Lys Glu  
50 55 60

Leu Glu Asp Arg Lys Asn Gln Tyr Asp Ile Gln Ile Ala Lys Ile Thr  
65 70 75 80

Asn Glu Glu Ser Asn Leu Leu Asp Thr Tyr Ile Arg Ala Tyr Glu Leu  
85 90 95

Ala Asn Glu Asn Glu Lys Met Leu Leu Lys Arg Phe Leu Leu Ser Ser  
100 105 110

Leu Asp Tyr Lys Lys Glu Asn Ile Glu Thr Leu Lys Glu Ile Leu Glu  
115 120 125

Lys Leu Ile Asn Asn Tyr Glu Asn Asp Pro Lys Ile Ala Ala Asn Phe  
130 135 140

Leu Tyr Arg Ile Ala Leu Asp Ile Gln Leu Lys Leu Glu Lys His Leu  
145 150 155 160

Lys Ser Ile Asn Glu Lys Leu Asp Thr Leu Ser Lys Glu Asn Ser Lys  
165 170 175

Glu Asp Leu Glu Ala Leu Leu Glu Gln Val Lys Ser Ala Leu Gln Leu  
180 185 190

Gln Glu Lys Phe Lys Lys Thr Leu Asn Lys Thr Leu Glu Asp Tyr Arg  
195 200 205

Lys Asn Thr Asn Asn Ile Gln Glu Asn Lys Val Leu Ala Glu His Phe  
 210 215 220

Asn Lys Tyr Tyr Lys Asp Ser Asp Ser Leu Gln Ser Ala Phe Tyr  
 225 230 235

<210> 728

<211> 783

<212> DNA

<213> Homo sapiens

<400> 728

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tgattttaatg taaatttttaa ttaccgccta aaaaaggcctt taaatggtat aaaggaagaa 60
gatctaattgg tatttagaac atataaacat ttggaactaa taatgctgcc catgttaatg 120
ctgagttgcg ctttttttaa gaaaccacaa tctgtacatc aagacagcaa tactggcaaa 180
ccaataagcg atgaaaaatt acattttaata tcaggcaaaa tttcaaataa aaaattgcc 240
atcataaata gtaatcatga cgtaacttgg ataaaaacaa aggcaatgac aatcttaggc 300
gaagatggaa aagaaatacc agaattttaa acaaaatttg gatattctta tataatatct 360
cctgtaaaaa tggatggaaa atatagttat tacgcgtcat tattaatact ttttgaaaca 420
actaaaaatg gagatgatga atatgaaatt gaagatgtta aatttgtaac agctggttcc 480
accctagaac ttaaaaaattc tcttttagct gttgaaaatt cacaagaaga aggatatgtt 540
actgcatacc catttggaat attgatgagt gacgagatta aaaatgcttt taaattaaca 600
tataaaaatg gtcattggaa ttatatgctt gcagatttaa ctgtcaaaaa taaacttact 660
caagaaacta aaattttataa aattttctct aattcaaaat taattattga atttttaaaa 720
gaagtgcata aagaaaaattc tatattaaaa gacatagctg gagatttatt tgaagatata 780
taa 783

```

<210> 729

<211> 654

<212> DNA

<213> Homo sapiens

<400> 729

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tgcgcttttt ttaagaaacc acaatctgta catcaagaca gcaatactgg caaaccaata 60
agcgatgaaa aattacattt aatatcaggc aaaatttcaa ataaaaaatt gccaatcata 120
aatagtaatc atgacgtaac ttggataaaa acaagggcaa tgacaatctt aggcgagat 180
ggaaaaagaaa taccagaatt taaaaacaaa tttggatatt cttatataat atctcctgta 240
aaaatggatg gaaaatatag ttattacgcg tcattattaa tactttttga aacaactaaa 300
aatggagatg atgaatatga aattgaagat gttaaatttg taacagctgg ttccacccta 360
gaacttaaaa attctctttt agctgttgaa aattcacaa agaggata tgttactgca 420
taccatttgg gaattatgat gagtgacgag attaaaaatg cttttaaaatt aacatataaa 480
aatgggtcatt ggaattatat gcttgcatg ttaactgtca aaaataaaact tactcaagaa 540
actaaaattt ataaaatttc tcttaattca aaattaatta ttgaattttt aaaagaagtg 600
ctaaaagaaa attctatatt aaaagacata gctggagatt tatttgaaga tata 654

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<210> 730

<211> 259

<212> PRT

<213> Homo sapiens

<400> 730

Phe Asn Val Asn Phe Asn Tyr Arg Leu Lys Lys Ala Leu Asn Gly Ile  
 1 5 10 15

Lys Glu Glu Asp Leu Met Val Phe Arg Thr Tyr Lys His Leu Glu Leu  
 20 25 30

Ile Met Leu Pro Met Leu Met Leu Ser Cys Ala Phe Phe Lys Lys Pro

35	40	45
Gln Ser Val His Gln Asp Ser Asn Thr Gly Lys Pro Ile Ser Asp Glu		
50	55	60
Lys Leu His Leu Ile Ser Gly Lys Ile Ser Asn Lys Lys Leu Pro Ile		
65	70	75
Ile Asn Ser Asn His Asp Val Thr Trp Ile Lys Thr Lys Ala Met Thr		
	85	90
Ile Leu Gly Glu Asp Gly Lys Glu Ile Pro Glu Phe Lys Asn Lys Phe		
	100	105
Gly Tyr Ser Tyr Ile Ile Ser Pro Val Lys Met Asp Gly Lys Tyr Ser		
	115	120
Tyr Tyr Ala Ser Leu Leu Ile Leu Phe Glu Thr Thr Lys Asn Gly Asp		
	130	135
Asp Glu Tyr Glu Ile Glu Asp Val Lys Phe Val Thr Ala Gly Ser Thr		
	145	150
Leu Glu Leu Lys Asn Ser Leu Leu Ala Val Glu Asn Ser Gln Glu Glu		
	165	170
Gly Tyr Val Thr Ala Tyr Pro Phe Gly Ile Leu Met Ser Asp Glu Ile		
	180	185
Lys Asn Ala Phe Lys Leu Thr Tyr Lys Asn Gly His Trp Asn Tyr Met		
	195	200
Leu Ala Asp Leu Thr Val Lys Asn Lys Leu Thr Gln Glu Thr Lys Ile		
	210	215
Tyr Lys Ile Ser Leu Asn Ser Lys Leu Ile Ile Glu Phe Leu Lys Glu		
	225	230
Val Leu Lys Glu Asn Ser Ile Leu Lys Asp Ile Ala Gly Asp Leu Phe		
	245	250

Glu Asp Ile

<210> 731  
 <211> 218  
 <212> PRT  
 <213> Homo sapiens

<400> 731  
 Cys Ala Phe Phe Lys Lys Pro Gln Ser Val His Gln Asp Ser Asn Thr  
 1 5 10 15  
 Gly Lys Pro Ile Ser Asp Glu Lys Leu His Leu Ile Ser Gly Lys Ile  
 20 25 30  
 Ser Asn Lys Lys Leu Pro Ile Ile Asn Ser Asn His Asp Val Thr Trp  
 35 40 45

Ile Lys Thr Lys Ala Met Thr Ile Leu Gly Glu Asp Gly Lys Glu Ile  
 50 55 60  
 Pro Glu Phe Lys Asn Lys Phe Gly Tyr Ser Tyr Ile Ile Ser Pro Val  
 65 70 75 80  
 Lys Met Asp Gly Lys Tyr Ser Tyr Tyr Ala Ser Leu Leu Ile Leu Phe  
 85 90 95  
 Glu Thr Thr Lys Asn Gly Asp Asp Glu Tyr Glu Ile Glu Asp Val Lys  
 100 105 110  
 Phe Val Thr Ala Gly Ser Thr Leu Glu Leu Lys Asn Ser Leu Leu Ala  
 115 120 125  
 Val Glu Asn Ser Gln Glu Glu Gly Tyr Val Thr Ala Tyr Pro Phe Gly  
 130 135 140  
 Ile Leu Met Ser Asp Glu Ile Lys Asn Ala Phe Lys Leu Thr Tyr Lys  
 145 150 155 160  
 Asn Gly His Trp Asn Tyr Met Leu Ala Asp Leu Thr Val Lys Asn Lys  
 165 170 175  
 Leu Thr Gln Glu Thr Lys Ile Tyr Lys Ile Ser Leu Asn Ser Lys Leu  
 180 185 190  
 Ile Ile Glu Phe Leu Lys Glu Val Leu Lys Glu Asn Ser Ile Leu Lys  
 195 200 205  
 Asp Ile Ala Gly Asp Leu Phe Glu Asp Ile  
 210 215

&lt;210&gt; 732

&lt;211&gt; 1212

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc feature

&lt;222&gt; (877)

&lt;223&gt; n equals a,t,g, or c

&lt;400&gt; 732

taattaccaa agataagtaa acttgcaaat aaaactacac gtattgaaag tagatttgaa 60  
 atttccatta tatatatata taatggcact aaatatctga aaatgaagga gaagcgggtg 120  
 ggcaataaaa ttttttatat ttcagtgggtt ttaattttta tagttgggtg cgactgggga 180  
 actattaaag ataaaagtac agaaatttcc aagctattaa gaacggacaa agataagact 240  
 aaaaatcaag atagaataga attgggtgaa gataattttg tatctaaaaa taatatgtct 300  
 actactgata cgggcattac tagtttagga agtctaaaca acttggattt aattaatcgt 360  
 tcacagcggg tcagtgaacc acctataatc tcaaagtaga aagccatagc tactcaagca 420  
 aaagtagatt taatgaacaa cattaatggt actataataa acccaaaacc agtcaaaa 480  
 ttgggaatt ctttaacaa tactactact gaagatagtg tgaagttttt atcaattgaa 540  
 aaccaagagt ggcttattag taaaaagatt ttgccagta agttggaaaa tttagaaagc 600  
 tttctaaaaa cacaacacga aaaagaagct tttaagacgg ctaaaactat acaaagtctc 660  
 attagtaatt ccaatatggg taaagaaatt attaagttta aggaagaata ttacaaactt 720  
 tataatttgt ttgaaggcat acaacaaaaa ttccatagtc aaaggaattc atttataaaa 780



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gatactaaat ttggggaaaa tagacaaaaa aatgcagtta tatttaaadc cttttcatct 840
atagagaaag aaattagaga tttgaattat aagttgngtg aaatccaaag taattttcaa 900
attgcagatg ttagctggaa taatgcaaac tctcttttaa aagaatctat agaaaaatta 960
attcaggcaa ttgaaaaaag gtatgacaat gagagtagaa agcaagggtca aattgggtgga 1020
cctgctaata gatgggataa aaatcaagct gacaattttg ctaaggatgc aaagtataag 1080
gcagaacatt cagcaaatga tttggaaaaa gcagccaact attttagata tagttgttca 1140
aatgaaaaag aagctaaaaa gctattagaa gaaattaaaa aaagatttgt acgaattggt 1200
attagcctat aa 1212

```

<210> 733

<211> 1041

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (709)

<223> n equals a,t,g, or c

<400> 733

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tgcgactggg gaactattaa agataaaagt acagaaatth ccaagctatt aagaacggac 60
aaagataaga ctaaaaaatca agatagaata gaattgggtg aagataatth tgtatctaaa 120
aataatatgt ctactactga tacgggcatt actagtttag gaagtctaaa caacttggat 180
ttaattaatc gttcacagcg ggtcagtga ccacctataa tctcaaatga gaaagccata 240
gctactcaag caaaagtaga tttaatgaac aacattaatg ttactataat aaacccaaaa 300
ccagctcaaa atttgggaaa ttcttttaac aatactacta ctgaagatag tgtgaagttt 360
ttatcaattg aaaaccaaga gtggcttatt agtaaaaaaga ttttgcccag taagttggaa 420
aatttagaaa gctttctaaa aacacaacac gaaaaagaag cttttaagac ggctaaaact 480
atacaaaatc tcattagtaa ttccaatag ggtaaagaaa ttattaagtt taaggaagaa 540
tattacaaac tttataatth gtttgaaggc atacaacaaa aattccatag tcaaaggaat 600
tcatttataa aagatactaa atttggggaa aatagacaaa aaaatgcagt tatattttaa 660
tccttttcat ctatagagaa agaaattaga gatttgaatt ataagttgng tgaaatccaa 720
agtaattttc aaattgcaga tgtagctgg aataatgcaa actctctttt aaaagaatct 780
atagaaaaat taattcaggc aattgaaaaa aggtatgaca atgagagtag aaagcaagggt 840
caaatgggtg gacctgctaa tagatgggat aaaaatcaag ctgacaatth tgctaaggat 900
gcaaagtata aggcagaaca ttcagcaaat gatttggaaa atgcagccaa ctatttttaga 960
tatagttggt caaatgaaaa agaagctaaa aagctattag aagaaattaa aaaaagattt 1020
gtacgaattg gtattagcct a 1041

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<210> 734

<211> 402

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (292)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 734

```

Leu Pro Lys Ile Ser Lys Leu Ala Asn Lys Thr Thr Arg Ile Glu Ser
 1       5              10             15

Arg Phe Glu Ile Ser Ile Ile Phe Ile Tyr Asn Gly Thr Lys Tyr Leu
      20              25             30

Lys Met Lys Glu Lys Arg Val Gly Asn Lys Ile Phe Tyr Ile Ser Val
 35              40             45

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Val	Leu	Ile	Leu	Ile	Val	Gly	Cys	Asp	Trp	Gly	Thr	Ile	Lys	Asp	Lys		
50						55					60						
Ser	Thr	Glu	Ile	Ser	Lys	Leu	Leu	Arg	Thr	Asp	Lys	Asp	Lys	Thr	Lys		
65					70					75					80		
Asn	Gln	Asp	Arg	Ile	Glu	Leu	Gly	Glu	Asp	Asn	Phe	Val	Ser	Lys	Asn		
				85					90					95			
Asn	Met	Ser	Thr	Thr	Asp	Thr	Gly	Ile	Thr	Ser	Leu	Gly	Ser	Leu	Asn		
			100					105					110				
Asn	Leu	Asp	Leu	Ile	Asn	Arg	Ser	Gln	Arg	Val	Ser	Glu	Pro	Pro	Ile		
		115					120					125					
Ile	Ser	Asn	Glu	Lys	Ala	Ile	Ala	Thr	Gln	Ala	Lys	Val	Asp	Leu	Met		
130						135					140						
Asn	Asn	Ile	Asn	Val	Thr	Ile	Ile	Asn	Pro	Lys	Pro	Ala	Gln	Asn	Leu		
145					150					155					160		
Gly	Asn	Ser	Leu	Asn	Asn	Thr	Thr	Thr	Glu	Asp	Ser	Val	Lys	Phe	Leu		
				165					170					175			
Ser	Ile	Glu	Asn	Gln	Glu	Trp	Leu	Ile	Ser	Lys	Lys	Ile	Leu	Pro	Ser		
			180					185					190				
Lys	Leu	Glu	Asn	Leu	Glu	Ser	Phe	Leu	Lys	Thr	Gln	His	Glu	Lys	Glu		
		195					200					205					
Ala	Phe	Lys	Thr	Ala	Lys	Thr	Ile	Gln	Ser	Leu	Ile	Ser	Asn	Ser	Asn		
210						215					220						
Met	Gly	Lys	Glu	Ile	Ile	Lys	Phe	Lys	Glu	Glu	Tyr	Tyr	Lys	Leu	Tyr		
225					230					235					240		
Asn	Leu	Phe	Glu	Gly	Ile	Gln	Gln	Lys	Phe	His	Ser	Gln	Arg	Asn	Ser		
				245					250					255			
Phe	Ile	Lys	Asp	Thr	Lys	Phe	Gly	Glu	Asn	Arg	Gln	Lys	Asn	Ala	Val		
			260					265					270				
Ile	Phe	Lys	Ser	Phe	Ser	Ser	Ile	Glu	Lys	Glu	Ile	Arg	Asp	Leu	Asn		
		275					280					285					
Tyr	Lys	Leu	Xaa	Glu	Ile	Gln	Ser	Asn	Phe	Gln	Ile	Ala	Asp	Val	Ser		
290						295					300						
Trp	Asn	Asn	Ala	Asn	Ser	Leu	Leu	Lys	Glu	Ser	Ile	Glu	Lys	Leu	Ile		
305					310					315					320		
Gln	Ala	Ile	Glu	Lys	Arg	Tyr	Asp	Asn	Glu	Ser	Arg	Lys	Gln	Gly	Gln		
				325					330					335			
Ile	Gly	Gly	Pro	Ala	Asn	Arg	Trp	Asp	Lys	Asn	Gln	Ala	Asp	Asn	Phe		
			340					345					350				

Ala Lys Asp Ala Lys Tyr Lys Ala Glu His Ser Ala Asn Asp Leu Glu  
355 360 365

Asn Ala Ala Asn Tyr Phe Arg Tyr Ser Cys Ser Asn Glu Lys Glu Ala  
370 375 380

Lys Lys Leu Leu Glu Glu Ile Lys Lys Arg Phe Val Arg Ile Gly Ile  
385 390 395 400

Ser Leu

<210> 735

<211> 347

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (237)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 735

Cys Asp Trp Gly Thr Ile Lys Asp Lys Ser Thr Glu Ile Ser Lys Leu  
1 5 10 15

Leu Arg Thr Asp Lys Asp Lys Thr Lys Asn Gln Asp Arg Ile Glu Leu  
20 25 30

Gly Glu Asp Asn Phe Val Ser Lys Asn Asn Met Ser Thr Thr Asp Thr  
35 40 45

Gly Ile Thr Ser Leu Gly Ser Leu Asn Asn Leu Asp Leu Ile Asn Arg  
50 55 60

Ser Gln Arg Val Ser Glu Pro Pro Ile Ile Ser Asn Glu Lys Ala Ile  
65 70 75 80

Ala Thr Gln Ala Lys Val Asp Leu Met Asn Asn Ile Asn Val Thr Ile  
85 90 95

Ile Asn Pro Lys Pro Ala Gln Asn Leu Gly Asn Ser Leu Asn Asn Thr  
100 105 110

Thr Thr Glu Asp Ser Val Lys Phe Leu Ser Ile Glu Asn Gln Glu Trp  
115 120 125

Leu Ile Ser Lys Lys Ile Leu Pro Ser Lys Leu Glu Asn Leu Glu Ser  
130 135 140

Phe Leu Lys Thr Gln His Glu Lys Glu Ala Phe Lys Thr Ala Lys Thr  
145 150 155 160

Ile Gln Ser Leu Ile Ser Asn Ser Asn Met Gly Lys Glu Ile Ile Lys  
165 170 175

Phe Lys Glu Glu Tyr Tyr Lys Leu Tyr Asn Leu Phe Glu Gly Ile Gln  
180 185 190

Gln Lys Phe His Ser Gln Arg Asn Ser Phe Ile Lys Asp Thr Lys Phe  
 195 200 205  
 Gly Glu Asn Arg Gln Lys Asn Ala Val Ile Phe Lys Ser Phe Ser Ser  
 210 215 220  
 Ile Glu Lys Glu Ile Arg Asp Leu Asn Tyr Lys Leu Xaa Glu Ile Gln  
 225 230 235 240  
 Ser Asn Phe Gln Ile Ala Asp Val Ser Trp Asn Asn Ala Asn Ser Leu  
 245 250 255  
 Leu Lys Glu Ser Ile Glu Lys Leu Ile Gln Ala Ile Glu Lys Arg Tyr  
 260 265 270  
 Asp Asn Glu Ser Arg Lys Gln Gly Gln Ile Gly Gly Pro Ala Asn Arg  
 275 280 285  
 Trp Asp Lys Asn Gln Ala Asp Asn Phe Ala Lys Asp Ala Lys Tyr Lys  
 290 295 300  
 Ala Glu His Ser Ala Asn Asp Leu Glu Asn Ala Ala Asn Tyr Phe Arg  
 305 310 315 320  
 Tyr Ser Cys Ser Asn Glu Lys Glu Ala Lys Lys Leu Leu Glu Glu Ile  
 325 330 335  
 Lys Lys Arg Phe Val Arg Ile Gly Ile Ser Leu  
 340 345

&lt;210&gt; 736

&lt;211&gt; 447

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 736

taaataaatt gtaggataaa aatgaaacaa aaatacgaaa actatttttaa aaaaagatta 60  
 attttaaacc tattaatatt tttactacta gcatgctcaa gcgaatccat attttcacia 120  
 ttaggaaatc tgcaaaaaat aaaacatgaa tacaatattt tgggcagttc aagtccaaga 180  
 ggaatttctc tagtaggaga aactctctac attgcagcca tgcatttatt taaaaaagaa 240  
 aacggcaaga ttgaaaaaat tgatttgagc aattcttatg agttttataaa cgacattgta 300  
 aatataatctg gaaaaaccta tcttttagcg caaaacaaag aagaagaatt agaagtttgc 360  
 gagctaaatg gaaaagattg gacattaaaa tttaaaaaac cgctaaaagc atataaattc 420  
 ttaaaatccg tagaagagat ggcgtaa 447

&lt;210&gt; 737

&lt;211&gt; 351

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 737

tgctcaagcg aatccatatt ttcacaatta ggaaatctgc aaaaaataaa acatgaatac 60  
 aatatttttg gcagttcaag tccaagagga atttctctag taggagaaac tctctacatt 120  
 gcagccatgc atttatttaa aaaagaaaac ggcaagattg aaaaaattga tttgagcaat 180  
 tcttatgagt ttataaacga cattgttaat atatctggaa aaacctatct tttagcgcaa 240  
 aacaaagaag aagaattaga agtttgcgag ctaaatggaa aagattggac attaaaattt 300  
 aaaaaaccgc taaaagcata taaattctta aaatccgtag aagagatggc g 351

&lt;210&gt; 738

&lt;211&gt; 147

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 738

Ile Asn Cys Arg Ile Lys Met Lys Gln Lys Tyr Glu Asn Tyr Phe Lys  
 1 5 10 15

Lys Arg Leu Ile Leu Asn Leu Leu Ile Phe Leu Leu Leu Ala Cys Ser  
 20 25 30

Ser Glu Ser Ile Phe Ser Gln Leu Gly Asn Leu Gln Lys Ile Lys His  
 35 40 45

Glu Tyr Asn Ile Leu Gly Ser Ser Ser Pro Arg Gly Ile Ser Leu Val  
 50 55 60

Gly Glu Thr Leu Tyr Ile Ala Ala Met His Leu Phe Lys Lys Glu Asn  
 65 70 75 80

Gly Lys Ile Glu Lys Ile Asp Leu Ser Asn Ser Tyr Glu Phe Ile Asn  
 85 90 95

Asp Ile Val Asn Ile Ser Gly Lys Thr Tyr Leu Leu Ala Gln Asn Lys  
 100 105 110

Glu Glu Glu Leu Glu Val Cys Glu Leu Asn Gly Lys Asp Trp Thr Leu  
 115 120 125

Lys Phe Lys Lys Pro Leu Lys Ala Tyr Lys Phe Leu Lys Ser Val Glu  
 130 135 140

Glu Met Ala  
 145

&lt;210&gt; 739

&lt;211&gt; 117

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 739

Cys Ser Ser Glu Ser Ile Phe Ser Gln Leu Gly Asn Leu Gln Lys Ile  
 1 5 10 15

Lys His Glu Tyr Asn Ile Leu Gly Ser Ser Ser Pro Arg Gly Ile Ser  
 20 25 30

Leu Val Gly Glu Thr Leu Tyr Ile Ala Ala Met His Leu Phe Lys Lys  
 35 40 45

Glu Asn Gly Lys Ile Glu Lys Ile Asp Leu Ser Asn Ser Tyr Glu Phe  
 50 55 60

Ile Asn Asp Ile Val Asn Ile Ser Gly Lys Thr Tyr Leu Leu Ala Gln  
 65 70 75 80

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<220>
<221> misc feature
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<222> (189)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (191)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (200)  
 <223> n equals a,t,g, or c

<400> 741  
 tggtatttgc ctgataaatca ggaacaagct gttcaaactt tttttgagaa ttcggaaagt 60  
 agtgatatgg gttccgatga gattgttact gaaggcatat tttctagttt aaaattatat 120  
 gcgtctgaac atcgttttatt gggtgagata aaaaagactt taattagttt aaaagatcct 180  
 aattatcnng ntgtagtacn cccagtgagt gactataatg aggagtattt taataaattc 240  
 tttctagatt tagggctctga gcaatctaaa gacctgatta agttgtttat tatggtaaaa 300  
 aatgagcaga acaataataa atttatgcgt atagttcggt ggctgtattc atgtatagag 360  
 gagttatatt ctctagatat taagtattct ggcgagggga gccatgagta taatcgtaat 420  
 atgcctagac ccaactgctta tgaacaatat ttaaaagtga agaggtatga ttataat 477

<210> 742  
 <211> 186  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> SITE  
 <222> (82)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (83)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (86)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<400> 742  
 Gly Ala Tyr Met Arg Ile Leu Val Gly Val Cys Ile Ile Ala Leu Ala  
     1                  5                  10                  15  
 Leu Leu Gly Cys Tyr Leu Pro Asp Asn Gln Glu Gln Ala Val Gln Thr  
     20                  25                  30  
 Phe Phe Glu Asn Ser Glu Ser Ser Asp Met Gly Ser Asp Glu Ile Val  
     35                  40                  45  
 Thr Glu Gly Ile Phe Ser Ser Leu Lys Leu Tyr Ala Ser Glu His Arg  
     50                  55                  60  
 Leu Leu Val Glu Ile Lys Lys Thr Leu Ile Ser Leu Lys Asp Pro Asn  
     65                  70                  75                  80

Tyr Xaa Xaa Val Val Xaa Pro Val Ser Asp Tyr Asn Glu Glu Tyr Phe  
85 90 95

Asn Lys Phe Phe Leu Asp Leu Gly Ser Glu Gln Ser Lys Asp Leu Ile  
100 105 110

Lys Leu Phe Ile Met Val Lys Asn Glu Gln Asn Asn Lys Phe Met  
115 120 125

Arg Ile Val Arg Trp Leu Tyr Ser Cys Ile Glu Glu Leu Tyr Ser Leu  
130 135 140

Asp Ile Lys Tyr Ser Gly Glu Gly Ser His Glu Tyr Asn Arg Asn Met  
145 150 155 160

Pro Arg Pro Thr Ala Tyr Glu Gln Tyr Leu Lys Val Lys Arg Tyr Asp  
165 170 175

Tyr Asn Ser Pro Val Ser Ile Leu Pro Thr  
180 185

<210> 743

<211> 159

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (63)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (64)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (67)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 743

Cys Tyr Leu Pro Asp Asn Gln Glu Gln Ala Val Gln Thr Phe Phe Glu  
1 5 10 15

Asn Ser Glu Ser Ser Asp Met Gly Ser Asp Glu Ile Val Thr Glu Gly  
20 25 30

Ile Phe Ser Ser Leu Lys Leu Tyr Ala Ser Glu His Arg Leu Leu Val  
35 40 45

Glu Ile Lys Lys Thr Leu Ile Ser Leu Lys Asp Pro Asn Tyr Xaa Xaa  
50 55 60

Val Val Xaa Pro Val Ser Asp Tyr Asn Glu Glu Tyr Phe Asn Lys Phe  
65 70 75 80



Phe Leu Asp Leu Gly Ser Glu Gln Ser Lys Asp Leu Ile Lys Leu Phe  
                     85                    90                    95

Ile Met Val Lys Asn Glu Gln Asn Asn Asn Lys Phe Met Arg Ile Val  
                     100                    105                    110

Arg Trp Leu Tyr Ser Cys Ile Glu Glu Leu Tyr Ser Leu Asp Ile Lys  
                     115                    120                    125

Tyr Ser Gly Glu Gly Ser His Glu Tyr Asn Arg Asn Met Pro Arg Pro  
                     130                    135                    140

Thr Ala Tyr Glu Gln Tyr Leu Lys Val Lys Arg Tyr Asp Tyr Asn  
                     145                    150                    155

<210> 744

<211> 1011

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (557)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (572)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (573)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (893)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (897)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (906)

<223> n equals a,t,g, or c

<400> 744

taaagtatatt tattttttttt attatccact gttttttttt ctcaagagac tgatggatta 60  
 gcagagggtt ctaaaagggc agagcctgga gaattagttt tagattttgc cgagcttgca 120  
 agagatccaa gttcaactag acttgatctt acaaattatg ttgattatgt atattcgggc 180  
 gcttctggta ttgttaagcc ggaagatatg gttgtagatc ttgggataaa taattggagc 240  
 gttttactta ctcttctgc aagggttcag gcttacgta aaaattcagt tgttgcgcc 300  
 gctgttgta agagtgc aaaaaggtac gcaggtgata ctattttagg ggtaagagtt 360  
 ttgtttccaa gctattctca atcatctgct atgattatgc caccatttaa aattcctttt 420

```

tattcagggg aaagtggcaa tcaattttta ggcaaaggtc ttattgataa cattaaaaacc 480
atgaaagaaa ttaagggtatc tgttttatagt ttaggggtatg agatagatct tgagggtttta 540
tttgaagata tgaatgncat ggaatatgct tnncttatgg gtacttttaa gtttaaaggg 600
tgggctgatt taatttggtc aaatcctaac tatattccta atatatcatc cagaattatt 660
aaagacgatg ttccaaatta tcctcttgct tcaagtaaaa tgagatttaa ggcttttaga 720
gtttcaaagt cacacagttc aaaagagcaa aatttcatct tttatgttaa agatttaaga 780
gttctttatg ataagttgag tgtttcaata gattctgata ttgacagtga gtctgtattt 840
aaagtttatg agactagcgg aactgaatcc cttcgtaaat taaaggcaca cgnaacnttt 900
aaaagngttt taaagcttag agaaaaaatt tctatgcctg aaggctcttt ccaaaacttt 960
gtagaaaaga ttgagagtga aaaacctgaa gaatcatctc cgaaaaatta g 1011

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<210> 745

<211> 945

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (494)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (509)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (510)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (830)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (834)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (843)

<223> n equals a,t,g, or c

<400> 745

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gaggggttcta aaagggcaga gcctggagaa ttagttttag attttgccga gcttgcaaga 60
gatccaagtt caactagact tgatcttaca aattatgttg attatgtata ttcgggcgct 120
tctgggtattg ttaagccgga agatatgggt gtagatcttg ggataaataa ttggagcggt 180
ttacttactc cttctgcaag gttgcaggct tacgttaaaa attcagttgt tgcgcccgt 240
gttggttaaga gtgagtcaaa aaggtacgca ggtgatacta ttttaggggt aagagttttg 300
tttccaagct attctcaatc atctgctatg attatgccac catttaaaat tcctttttat 360
tcaggggaaa gtggcaatca atttttaggc aaaggctcta ttgataacat taaaaccatg 420
aaagaaatta aggtatctgt ttatagttta gggatatgaga tagatcttga ggttttattt 480
gaagatatga atgncatgga atatgctnn tctatgggta ctttaaagtt taaaggggtg 540
gctgatttaa tttggtcaaa tcctaactat attcctaata tatcatccag aattattaaa 600
gacgatgttc caaattatcc tcttgcttca agtaaaatga gatttaaggc ttttagagtt 660

```

```

tcaaagtcac acagttcaaa agagcaaaat ttcatctttt atgttaaaga ttttaagagtt 720
ctttatgata agttgagtgt ttcaatagat tctgatattg acagtgagtc tgtattttaa 780
gtttatgaga ctagcggaac tgaatccctt cgtaaattaa aggcacacgn aacnttttaa 840
agngttttta agcttagaga aaaaatttct atgcctgaag gctctttcca aaactttgta 900
gaaaagattg agagtgaaaa acctgaagaa tcatctccga aaaat 945

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<210> 746

<211> 335

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (185)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (190)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (297)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (301)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 746

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Ser Ile Leu Phe Phe Leu Leu Ser Thr Val Leu Phe Ala Gln Glu Thr
  1               5               10               15

```

```

Asp Gly Leu Ala Glu Gly Ser Lys Arg Ala Glu Pro Gly Glu Leu Val
      20               25               30

```

```

Leu Asp Phe Ala Glu Leu Ala Arg Asp Pro Ser Ser Thr Arg Leu Asp
    35               40               45

```

```

Leu Thr Asn Tyr Val Asp Tyr Val Tyr Ser Gly Ala Ser Gly Ile Val
    50               55               60

```

```

Lys Pro Glu Asp Met Val Val Asp Leu Gly Ile Asn Asn Trp Ser Val
    65               70               75               80

```

```

Leu Leu Thr Pro Ser Ala Arg Leu Gln Ala Tyr Val Lys Asn Ser Val
      85               90               95

```

```

Val Ala Pro Ala Val Val Lys Ser Glu Ser Lys Arg Tyr Ala Gly Asp
    100               105               110

```

```

Thr Ile Leu Gly Val Arg Val Leu Phe Pro Ser Tyr Ser Gln Ser Ser
    115               120               125

```

```

Ala Met Ile Met Pro Pro Phe Lys Ile Pro Phe Tyr Ser Gly Glu Ser
    130               135               140

```

Gly Asn Gln Phe Leu Gly Lys Gly Leu Ile Asp Asn Ile Lys Thr Met  
 145 150 155 160  
 Lys Glu Ile Lys Val Ser Val Tyr Ser Leu Gly Tyr Glu Ile Asp Leu  
 165 170 175  
 Glu Val Leu Phe Glu Asp Met Asn Xaa Met Glu Tyr Ala Xaa Ser Met  
 180 185 190  
 Gly Thr Leu Lys Phe Lys Gly Trp Ala Asp Leu Ile Trp Ser Asn Pro  
 195 200 205  
 Asn Tyr Ile Pro Asn Ile Ser Ser Arg Ile Ile Lys Asp Asp Val Pro  
 210 215 220  
 Asn Tyr Pro Leu Ala Ser Ser Lys Met Arg Phe Lys Ala Phe Arg Val  
 225 230 235 240  
 Ser Lys Ser His Ser Ser Lys Glu Gln Asn Phe Ile Phe Tyr Val Lys  
 245 250 255  
 Asp Leu Arg Val Leu Tyr Asp Lys Leu Ser Val Ser Ile Asp Ser Asp  
 260 265 270  
 Ile Asp Ser Glu Ser Val Phe Lys Val Tyr Glu Thr Ser Gly Thr Glu  
 275 280 285  
 Ser Leu Arg Lys Leu Lys Ala His Xaa Thr Phe Lys Xaa Val Leu Lys  
 290 295 300  
 Leu Arg Glu Lys Ile Ser Met Pro Glu Gly Ser Phe Gln Asn Phe Val  
 305 310 315 320  
 Glu Lys Ile Glu Ser Glu Lys Pro Glu Glu Ser Ser Pro Lys Asn  
 325 330 335

<210> 747

<211> 315

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (165)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (170)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (277)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

&lt;221&gt; SITE

&lt;222&gt; (281)

&lt;223&gt; Xaa equals any of the naturally occurring L-amino acids

&lt;400&gt; 747

Glu	Gly	Ser	Lys	Arg	Ala	Glu	Pro	Gly	Glu	Leu	Val	Leu	Asp	Phe	Ala
1				5					10					15	

Glu	Leu	Ala	Arg	Asp	Pro	Ser	Ser	Thr	Arg	Leu	Asp	Leu	Thr	Asn	Tyr
			20					25					30		

Val	Asp	Tyr	Val	Tyr	Ser	Gly	Ala	Ser	Gly	Ile	Val	Lys	Pro	Glu	Asp
		35					40					45			

Met	Val	Val	Asp	Leu	Gly	Ile	Asn	Asn	Trp	Ser	Val	Leu	Leu	Thr	Pro
	50					55					60				

Ser	Ala	Arg	Leu	Gln	Ala	Tyr	Val	Lys	Asn	Ser	Val	Val	Ala	Pro	Ala
65					70					75					80

Val	Val	Lys	Ser	Glu	Ser	Lys	Arg	Tyr	Ala	Gly	Asp	Thr	Ile	Leu	Gly
				85					90					95	

Val	Arg	Val	Leu	Phe	Pro	Ser	Tyr	Ser	Gln	Ser	Ser	Ala	Met	Ile	Met
			100					105					110		

Pro	Pro	Phe	Lys	Ile	Pro	Phe	Tyr	Ser	Gly	Glu	Ser	Gly	Asn	Gln	Phe
		115					120					125			

Leu	Gly	Lys	Gly	Leu	Ile	Asp	Asn	Ile	Lys	Thr	Met	Lys	Glu	Ile	Lys
	130					135					140				

Val	Ser	Val	Tyr	Ser	Leu	Gly	Tyr	Glu	Ile	Asp	Leu	Glu	Val	Leu	Phe
145					150					155					160

Glu	Asp	Met	Asn	Xaa	Met	Glu	Tyr	Ala	Xaa	Ser	Met	Gly	Thr	Leu	Lys
			165						170					175	

Phe	Lys	Gly	Trp	Ala	Asp	Leu	Ile	Trp	Ser	Asn	Pro	Asn	Tyr	Ile	Pro
			180					185					190		

Asn	Ile	Ser	Ser	Arg	Ile	Ile	Lys	Asp	Asp	Val	Pro	Asn	Tyr	Pro	Leu
		195					200					205			

Ala	Ser	Ser	Lys	Met	Arg	Phe	Lys	Ala	Phe	Arg	Val	Ser	Lys	Ser	His
	210					215					220				

Ser	Ser	Lys	Glu	Gln	Asn	Phe	Ile	Phe	Tyr	Val	Lys	Asp	Leu	Arg	Val
225					230					235					240

Leu	Tyr	Asp	Lys	Leu	Ser	Val	Ser	Ile	Asp	Ser	Asp	Ile	Asp	Ser	Glu
			245						250					255	

Ser	Val	Phe	Lys	Val	Tyr	Glu	Thr	Ser	Gly	Thr	Glu	Ser	Leu	Arg	Lys
			260						265					270	

Leu	Lys	Ala	His	Xaa	Thr	Phe	Lys	Xaa	Val	Leu	Lys	Leu	Arg	Glu	Lys
		275					280							285	

Ile Ser Met Pro Glu Gly Ser Phe Gln Asn Phe Val Glu Lys Ile Glu  
 290 295 300

Ser Glu Lys Pro Glu Glu Ser Ser Pro Lys Asn  
 305 310 315

<210> 748

<211> 477

<212> DNA

<213> Homo sapiens

<400> 748

tgaatatttaa taataaaaaa aggagtaaca atgaaaatca tcaacatatt attttggttta 60  
 tttttactaa tgctaaacgg ctgtaattct aatgataatg acacttttaa aaacaatgcc 120  
 caacaaacaa aaagacgggg aaagcgtgat ttaacccaaa aagaaacaac acaagaaaaa 180  
 ccaaaatcta aagaagaact acttagagaa aagctatctg acgatcaaaa aacacatctt 240  
 gactgggttaa aacccgcttt aactgggtgt ggagaatttg acaaattctt agaaaatgat 300  
 gatgataaaa taaaatcagc acttgatcat ataaaaactc aacttgatag ttgtaatggt 360  
 gatcaagcag aacaacaaaa aaccactttc aaaactgtgg ttacagaatt ctttaaaaaa 420  
 ggtgatatag ataattttgc aactggagcg gttagtaact gcaataatgg tggctaa 477

<210> 749

<211> 393

<212> DNA

<213> Homo sapiens

<400> 749

tgtaattcta atgataatga cactttaaaa aacaatgccc aacaaacaaa aagacgggga 60  
 aagcgtgatt taacccaaaa agaaacaaca caagaaaaac caaaatctaa agaagaacta 120  
 cttagagaaa agctatctga cgatcaaaaa acacatcttg actgggttaa acccgcttta 180  
 actgggtgctg gagaatttga caaattctta gaaaatgatg atgataaaat aaaatcagca 240  
 cttgatcata taaaaactca acttgatagt tgtaatgggt atcaagcaga acaacaaaaa 300  
 accactttca aaactgtggt tacagaattc tttaaaaatg gtgatataga taattttgca 360  
 actggagcgg ttagtaactg caataatggt ggc 393

<210> 750

<211> 157

<212> PRT

<213> Homo sapiens

<400> 750

Ile Leu Ile Ile Lys Lys Gly Val Thr Met Lys Ile Ile Asn Ile Leu  
 1 5 10 15

Phe Cys Leu Phe Leu Leu Met Leu Asn Gly Cys Asn Ser Asn Asp Asn  
 20 25 30

Asp Thr Leu Lys Asn Asn Ala Gln Gln Thr Lys Arg Arg Gly Lys Arg  
 35 40 45

Asp Leu Thr Gln Lys Glu Thr Thr Gln Glu Lys Pro Lys Ser Lys Glu  
 50 55 60

Glu Leu Leu Arg Glu Lys Leu Ser Asp Asp Gln Lys Thr His Leu Asp  
 65 70 75 80

Trp Leu Lys Pro Ala Leu Thr Gly Ala Gly Glu Phe Asp Lys Phe Leu

85

90

95

Glu Asn Asp Asp Asp Lys Ile Lys Ser Ala Leu Asp His Ile Lys Thr  
                   100                  105                  110

Gln Leu Asp Ser Cys Asn Gly Asp Gln Ala Glu Gln Gln Lys Thr Thr  
           115                  120                  125

Phe Lys Thr Val Val Thr Glu Phe Phe Lys Asn Gly Asp Ile Asp Asn  
       130                  135                  140

Phe Ala Thr Gly Ala Val Ser Asn Cys Asn Asn Gly Gly  
       145                  150                  155

&lt;210&gt; 751

&lt;211&gt; 131

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 751

Cys Asn Ser Asn Asp Asn Asp Thr Leu Lys Asn Asn Ala Gln Gln Thr  
       1                  5                  10                  15

Lys Arg Arg Gly Lys Arg Asp Leu Thr Gln Lys Glu Thr Thr Gln Glu  
                   20                  25                  30

Lys Pro Lys Ser Lys Glu Glu Leu Leu Arg Glu Lys Leu Ser Asp Asp  
           35                  40                  45

Gln Lys Thr His Leu Asp Trp Leu Lys Pro Ala Leu Thr Gly Ala Gly  
       50                  55                  60

Glu Phe Asp Lys Phe Leu Glu Asn Asp Asp Asp Lys Ile Lys Ser Ala  
       65                  70                  75                  80

Leu Asp His Ile Lys Thr Gln Leu Asp Ser Cys Asn Gly Asp Gln Ala  
                   85                  90                  95

Glu Gln Gln Lys Thr Thr Phe Lys Thr Val Val Thr Glu Phe Phe Lys  
           100                  105                  110

Asn Gly Asp Ile Asp Asn Phe Ala Thr Gly Ala Val Ser Asn Cys Asn  
           115                  120                  125

Asn Gly Gly  
       130

&lt;210&gt; 752

&lt;211&gt; 453

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 752

tgaatattaa taataaaaaa aggaataata atgaaaatta tcaacatatt attttggtta 60  
 tttttactaa tgctaaacgg ctgtaattct aatgatacta ataatagcca aacaaaaagt 120  
 agacaaaaac gtgatttaac ccaaaaagaa gcaacacaag aaaaacctaa atctaaagaa 180  
 gaacttctta gagaaaagct aaatgataat caaaaaacac accttgactg gttaaaagaa 240  
 gctctgggca atgatggaga atttaataaa tttttaggat atgatgaaag caaaataaaa 300

tctgcacttg atcatataaa gagtgaactt gacagttgta ctggagataa ggttgaaaat 360  
 aaaaatacct tcaagcaggt cgttcaggag gcccttaaag ggggcataga cggctttgaa 420  
 aatactgcaa gtagtacgtg caaaaattca taa 453

<210> 753

<211> 369

<212> DNA

<213> Homo sapiens

<400> 753

tgtaattcta atgataactaa taatagccaa acaaaaagta gacaaaaaacg tgattttaacc 60  
 caaaaagaag caacacaaga aaaacctaaa tctaaagaag aactttcttag agaaaagcta 120  
 aatgataatc aaaaaacaca ccttgactgg ttaaaagaag ctctgggcaa tgatggagaa 180  
 ttttaataaat ttttaggata tgatgaaagc aaaataaaat ctgcacttga tcatataaag 240  
 agtgaacttg acagttgtac tggagataag gttgaaaata aaaatacctt caagcaggtc 300  
 gttcaggagg cccttaaagg gggcatagac ggctttgaaa atactgcaag tagtacgtgc 360  
 aaaaattca 369

<210> 754

<211> 149

<212> PRT

<213> Homo sapiens

<400> 754

Ile Leu Ile Ile Lys Lys Gly Ile Ile Met Lys Ile Ile Asn Ile Leu  
 1 5 10 15  
 Phe Cys Leu Phe Leu Leu Met Leu Asn Gly Cys Asn Ser Asn Asp Thr  
 20 25 30  
 Asn Asn Ser Gln Thr Lys Ser Arg Gln Lys Arg Asp Leu Thr Gln Lys  
 35 40 45  
 Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys Glu Glu Leu Leu Arg Glu  
 50 55 60  
 Lys Leu Asn Asp Asn Gln Lys Thr His Leu Asp Trp Leu Lys Glu Ala  
 65 70 75 80  
 Leu Gly Asn Asp Gly Glu Phe Asn Lys Phe Leu Gly Tyr Asp Glu Ser  
 85 90 95  
 Lys Ile Lys Ser Ala Leu Asp His Ile Lys Ser Glu Leu Asp Ser Cys  
 100 105 110  
 Thr Gly Asp Lys Val Glu Asn Lys Asn Thr Phe Lys Gln Val Val Gln  
 115 120 125  
 Glu Ala Leu Lys Gly Gly Ile Asp Gly Phe Glu Asn Thr Ala Ser Ser  
 130 135 140  
 Thr Cys Lys Asn Ser  
 145

<210> 755

<211> 123

<212> PRT

<213> Homo sapiens



&lt;400&gt; 755

Cys Asn Ser Asn Asp Thr Asn Asn Ser Gln Thr Lys Ser Arg Gln Lys  
 1 5 10 15

Arg Asp Leu Thr Gln Lys Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys  
 20 25 30

Glu Glu Leu Leu Arg Glu Lys Leu Asn Asp Asn Gln Lys Thr His Leu  
 35 40 45

Asp Trp Leu Lys Glu Ala Leu Gly Asn Asp Gly Glu Phe Asn Lys Phe  
 50 55 60

Leu Gly Tyr Asp Glu Ser Lys Ile Lys Ser Ala Leu Asp His Ile Lys  
 65 70 75 80

Ser Glu Leu Asp Ser Cys Thr Gly Asp Lys Val Glu Asn Lys Asn Thr  
 85 90 95

Phe Lys Gln Val Val Gln Glu Ala Leu Lys Gly Gly Ile Asp Gly Phe  
 100 105 110

Glu Asn Thr Ala Ser Ser Thr Cys Lys Asn Ser  
 115 120